The Role of Infant Temperament, Middle Childhood Moral Affect, and Parental Discipline Practices in Relation to Childhood Conduct Problems.

Lorraine Philip

A thesis submitted in partial fulfilment of the requirements of the University of Edinburgh for the degree of Doctor in Clinical Psychology

CONTENTS

CHAPTER 3: RESULTS

CHAPTER 4: DISCUSSION

REFERENCES

APPENDICES

ACKNOWLEDGEMENTS

I would like to thank all the children, parents and teachers who agreed to participate in this research and who gave so freely of their time and effort to provide a comprehensive set of data. I am also particularly grateful to David Cooke for supervising the study and for providing me with lots of encouragement and support throughout. Thanks also goes to the clinical and secretarial staff at the Departments' of Child Mental Health in Forth Valley for their practical and moral support. A special thanks goes to Helen Prior for her continued enthusiasm for the study. My thanks also goes to Christine Michie for her patience and guidance in relation to the data analyses and thanks to Neil Harrington and Ken Laidlaw for their comments on different aspects of the study. Finally, I would like to express my deep gratitude to all my friends and family for an abundance of practical and emotional support -- an extra special thanks to my daughter Hollie making me laugh on a regular basis and for helping me keep things in perspective

DECLARATION

This thesis has been composed by myself and the work contained herein is my own

Lorraine Philip

ABSTRACT

Objective: To examine the role of difficult temperament, middle childhood moral affect, and parental discipline practices in relation to childhood conduct problems.

Design: Twenty-one boys with conduct problems were compared to 23 "well-behaved" boys on measures of temperament, moral affect, negative and positive parenting and aggressive and delinquent conduct problems. Data was collected from children, parents and each child's class teacher.

Results: Children in the conduct problem group had more difficult temperaments as infants, lower moral affect in middle-childhood, and experienced a higher rate of negative parenting in comparison to the control group. Difficult temperament, moral affect and negative parenting were significantly correlated with conduct problems. However, correlational analyses also showed that temperament was related to low moral affect and negative parenting, and that negative parenting was related to low moral affect. Positive parenting was associated with higher levels of self-reported guilt.

Conclusions: There is a complex relationship between difficult temperament, low moral affect and negative parenting in relation to childhood conduct problems and it appears that there may be different pathways to conduct problems within the childhood-onset group. The implications of these results are discussed in relation to understanding and treating childhood conduct problems.

Keywords: Conduct Problems, Moral Affect, Callous-Unemotional Traits, Negative Parenting, Positive Parenting.

Abbreviations: ADHD: Attention Deficit Hyperactivity Disorder; APQ: Alabama Parenting Questionnaire. CBCL: Child Behaviour Checklist; CD: Conduct Disorder; CU: Callous-Unemotional Traits; DES-III: Differential Emotions Scale as adapted for children and adolescents; ODD: Oppositional Defiant Disorder; PCL-R: Psychopathy Checklist Revised. PAT: Pictorial Assessment of Temperament; PSD: Psychopathy Screening Device; SOMA-PC: Socialisation of Moral Affect – Parents of Children; TOSCA-C: Test of Self Conscious Affect – Children; WASI: Wechsler Abbreviated Scale of Intelligence.

CHAPTER 1 INTRODUCTION

1.0 OVERVIEW

The aim of this study was twofold: first, to examine the role of early infant temperament, middle childhood moral affect, and positive and negative parenting practices in relation to conduct problems and second, to examine the role of temperament and parenting practices in relation to moral affect.

An extensive body of literature has documented an association between coercive parenting practices and childhood conduct problems (Loeber & Stouthamer-Loeber, 1986; Rothbaum & Weisz, 1994). Furthermore, treatment outcome studies have shown that intervention directed at altering these parenting practices is the most effective method of treating childhood conduct problems (Kazdin, 1997; Brestan & Eyberg, 1998). However, research has also shown that, for some children, conduct problems appear to develop regardless of the quality of parenting (Wootton, Frick, Shelton & Silverthorn, 1997)

One possible explanation for these findings is that some children have a temperamental style that places them at risk of impaired functioning in the moral emotions. Deficits in these emotions are the core affective features of psychopathic personality disorder in adult offenders (Hare, 1991; Mealey, 1995) and similar deficits have also been identified in adolescent offenders (Forth, Hart & Hare, 1990;

Forth, Hare & De Vita, unpublished) and children with conduct problems (Frick, O'Brien, Wootton, & McBurnett, 1994).

This possibility provides a potentially useful contribution to the study of conduct problems. However, this is a new area of research and further investigation is necessary. Research is required whereby the mutability of these characteristics are examined since there exists a vast literature in developmental psychology that indicates that an individuals level of moral affect (i.e, empathy and guilt) is also influenced by the socialisation process.

In this introductory chapter, the relevant literature pertaining to the nature of conduct problems including classification, prevalence, development and etiological factors will be reviewed. Several of the most promising treatments for conduct problems will also be described. This will be followed by a review of the literature pertaining to the observed heterogeneity of conduct problems and in this section the importance of considering the child's affective characteristics will be introduced. The relevant research on children with low levels of moral affect and the implications of these findings will then be presented. This will be followed by a discussion of the potential mechanisms whereby deficits in the moral emotions arise. At this point, the main research questions and hypotheses will be stated.

Before moving on to the literature review, the terminology used throughout this study should be noted. Antisocial behaviour in children has been described under a

variety of terms including: "oppositional disorder" "conduct problems", "conduct disorder" "disruptive behaviour disorder" and "externalising behaviour problems". For the purposes of this study, the term "conduct problems" was selected to refer to this group of children. Secondly, prevalence studies have revealed gender differences in the rate of conduct problems. Conduct problems are far more prevalent in boys, with male:female ratios ranging from 4:1 to 2:1 (Carr, 1998). Reflecting this, most of the research concerning conduct problems includes boys only, therefore for the purposes of the present study male pronouns will be used. Finally, the term "moral affect" is employed in this study to refer collectively to empathy and guilt. However, it should be noted that other terms have used in the relevant literature including: "moral emotions"; "secondary emotions" and "self-conscious emotions".

1.1 CONDUCT PROBLEMS: NATURE AND SCOPE OF PROBLEM

In the following section, the nature and scope of childhood conduct problems will be described.

1.1.1 Conduct problems: A caricature

Child mental health workers are frequently faced with distraught parents who describe a tyrannical child who wreaks havoc at home, at school, and in the wider community. For example, the following statements made by parents interviewed as part of a study by Webster-Stratton and colleagues (Webster-Stratton & Herbert, 1995) are not untypical in the clinical setting:

> we can't really trust him not to walk up and wallop the smaller ones. He pokes them in the eyes or pushes them down (p. 46)
>
> he's the most stubborn child or person I have ever met, because he won't stop. His power is that he won't stop. He usually ends up crying and he gets like a mule – he kind of digs his heels in (p. 47)
>
> I have really tried to value the children more than I value the house, but it's been incredibly painful to watch our brand new house – brand spanking new – be destroyed (p. 46)
>
> he is like a "Jekyll and Hyde." Sometimes he can be sweet, charming, loving, easy to get along with, he's a very good natured child. But then there's the other side of him which emerges – an angry, hostile, aggressive, hurting child, who will do violent things to try to get his own way. He is rough with animals and mean with little children, and he is very non-compliant (p. 52)

At one time or another most children misbehave. To lie, cheat, tantrum, show aggression and be non-compliant is not in itself unusual during childhood. However, for some children, behaviours of these sorts are of such severity and/or

long-standing duration, that the child is considered to have a disorder of conduct (Webster-Stratton & Herbert, 1995).

1.1.2 Classification of conduct problems

According to the Diagnostic and Statistical Manual of Mental Disorders, 4th edition, (DSM-IV, American Psychiatric Association (APA), 1994), disorders of conduct are referred to collectively as "Disruptive Behaviour and Attention-Deficit Disorders". There are three subgroups in this category i.e., Oppositional Defiant Disorder (ODD); Conduct Disorder (CD) and Attention Deficit Hyperactivity Disorder (ADHD).

1.1.3 Oppositional Defiant Disorder

Oppositional Defiant Disorder (ODD) is diagnosed when the child exhibits a pattern of negative, hostile and defiant behaviour. These behaviours must have lasted for at least six months and at least four, or more, of the following symptoms must be present: often loses temper; often argues with adults; often actively defies or refuses to comply with adults rules; often deliberately does things that annoy other people; often blames others for his or her mistakes; is often touchy or easily annoyed; is often angry and resentful; and is often vindictive (APA, 1994).

1.1.4 Conduct Disorder

A diagnosis of conduct disorder (CD) requires a disturbance of behaviour that has been of at least six months duration in which at least three of the following

symptoms are present: often bullies, threatens, or intimidates others; often initiates physical fights; has used a weapon that can cause serious physical harm; has stolen while confronting a victim; has been physically cruel to people; has been physically cruel to animals; has forced someone into sexual activity; often lies or breaks promises; often stays out at night despite parental prohibitions; has stolen items of non-trivial value; has deliberately engaged in fire setting; has deliberately destroyed other people's property; has run away from home overnight; often plays truant from school; and has broken into an other persons house, building or car (APA, 1994).

1.1.5 Attention Deficit Hyperactivity Disorder

According to the DSM-IV, Attention Deficit Hyperactivity Disorder is diagnosed when a child displays a persistent pattern of inattention and/or hyperactivity-impulsivity for a period of at least 6 months. Onset must be before the age of 7 years (APA, 1994).

1.1.6 Dimensions or categories

Whether childhood conduct problems are dimensional or categorical classifications has been the subject of debate and disagreement (Fraunglass & Routh, 1999). For example, because there are no definite distinctions between normal and abnormal levels of conduct problems, many clinicians and researchers have argued that conduct problems are dimensional (Achenbach, 1995). However, Quay (1999) notes that research findings suggest that at least one subtype of conduct problems may be categorical. This argument is based on the findings that adult psychopaths

constitute a discrete class (Harris, Rice & Quinsey, 1994) and begin their antisocial and criminal careers early on in life. However there is not universal acceptance of either of these arguments and resolution of this debate awaits further empirical evidence.

1.1.7 Prevalence rates

In the general population, there is a 2% to 16% prevalence rate for Oppositional Defiant Disorder and a 6% to 16% prevalence rate for Conduct Disorder (DSM-IV, APA, 1994). However, one-third to one-half of all clinic referrals to child mental health facilities present with symptoms of oppositional and/or conduct problems (Webster-Stratton & Herbert, 1995).

1.1.8 Developmental progression

Studies have shown high continuity between disruptive behaviour problems in the preschool years, middle childhood and later adolescence (Loeber, 1990). It has therefore been suggested that, for some children, oppositional disorder in preschool is a precursor to later conduct problems (Lahey, Loeber, Quay, Frick, & Grimm, 1992).

1.1.9 Concurrent childhood problems

Co-morbid difficulties are common in children with conduct problems. Carr (1998) stated that research has shown a 23.3% co-morbidity rate for conduct problems and Attention Deficit Hyperactivity Disorder in community populations, and a 16.9% co-morbidity rate between conduct problems and major depression.

In a review of the literature, Lynam (1996) reported that the high rate of co-morbidity between Attention Deficit Hyperactivity Disorder and conduct problems has fuelled a long-standing debate in the study of disruptive behaviour disorders pertaining to whether these conditions are distinct. However, Lynam (1996) argued that this controversy has dissipated in recent years with research showing that the two conditions can exist independently. Nevertheless, it should be noted that, children with both conduct problems and Attention Deficit Hyperactivity Disorder tend to show a more severe and chronic antisocial disturbance (Lynam 1996; 1997).

1.1.10 Prognosis

Conduct problems place an individual at risk for a variety of dysfunctional adult outcomes such as: continuity of antisocial behaviours and adult criminality (Lahey, Loeber, Hart, Frick, Applegate, Zhang, Green & Russo, 1995; Zoccolillo, 1992), mental and physical health problems; low educational and occupational attainment; poor marital adjustment; and intergenerational transmission of conduct problems (Carr, 1998). It is important to note however, that not all conduct-disordered children incur a poor prognosis as adults. Data suggest that fewer than 50% of the most severe conduct-disordered children become antisocial adults. Nevertheless, the concurrent problems facing the conduct problem child and his family and the potentially poor prognosis demands intervention.

1.1.11 Summary

Children with conduct problems are at risk of a particularly poor short- and long-term prognosis whereby the effects of their behaviours exert a negative impact, not only to themselves, but to their victims, families, communities and society at large. Mental health practitioners are faced with the difficult challenge of treating this group and it is little wonder that considerable research attention has been devoted to tackling the question of etiology since it is only through this knowledge that we may be in any position to attempt to prevent, treat or manage this problem group. The current status of knowledge regarding etiology will be described in the following section.

1.2 ETIOLOGY OF CHILDHOOD CONDUCT PROBLEMS

Reviews of the literature have shown that many individual, familial, and contextual factors are relevant to the development of conduct problems. Since causality is very difficult to establish given the "chicken and egg" conundrum that pervades the childhood conduct problems literature (Kazdin 1997), most of the variables are considered to be known correlates to conduct disorder and are therefore referred to as "risk factors" (Waddell, Lipman, & Offord, 1999)

1.2.1 Individual risk factors

The "child deficit" hypothesis posits that neurophysiological, neurological, and/or neuropsychological abnormalities are at least partly responsible for the onset and development of conduct problems (Webster-Stratton & Herbert, 1995).

1.2.2 Temperament

Within the "child deficit" theory, childhood temperament has been subject to the most research with regard to conduct problems. Temperament has been described as those aspects of the personality that show consistency over time and across situations. These characteristics are believed to be constitutional in nature and include: activity level, emotional responsiveness, quality of mood, and social adaptability (Thomas & Chess, 1977).

Thomas & Chess (1977) argued that children can be grouped into one of three temperamental styles according to their temperamental qualities i.e., "difficult",

"easy" and "slow to warm-up". Children with an "easy" or "slow to warm-up" temperament tend to adapt to new situations and are able to tolerate frustration. In contrast, children with a "difficult temperament" are predominantly negative in response to new stimuli, are slow at adapting to change, frequently exhibit a negative mood, and generally react with high intensity.

Measures of "difficult temperament" have been shown to be related to conduct problems across a number of studies. For example, Bates and colleagues have reported a series of studies whereby they have documented a strong correlation between a lack of adaptability and frequent and intense negative mood and later conduct problems (Bates, 1990; Bates & Bayles, 1988; Bates, Bayles, Bennet. Ridge & Brown, 1991; Bates, Maslin & Frankel, 1985; Lee & Bates, 1985). Further evidence comes from a 10 year longitudinal study which examined the relationships between temperament (assessed at 1 year of age) and behavior problems of children aged 3 to 12 years. Difficult temperament correlated consistently with behaviour problems (i.e. aggression, attention and thought problems) at each age group (Guerin, Gottfried & Thomas, 1997).

1.2.3 Verbal deficits and academic underachievement

Intellectual deficits have been connected to childhood conduct problems. Frick (1998a) summarised several potential mechanisms whereby such difficulties may lead to conduct problems. According to Frick (1998a), the available theories suggest that it is possible that verbal deficits may impede the development of self-control

strategies, such as the child's ability to delay gratification and anticipate and reason the consequences of their acts. It is also possible that low verbal intelligence may impede the ability to generalize learning across situations. It is also possible that such impairments may limit a child's range of responses to threatening or ambiguous social situations, thus increasing the risk of an aggressive reaction. Finally, a child low in intelligence may also elicit less positive interactions and more punishments from parents and be less likely to experience success in school. Low academic achievement often manifests itself in children with conduct problems early on in their school career and continues into high school (Kazdin, 1997). Of course, it is difficult to establish "cause and effect" with such a variable, however there is some evidence that cognitive and linguistic problems do predate conduct (Schonfeld, Shaffer & O'Conner, 1998)

1.2.4 Cognitive and social skills deficits

Cognitive and social skills deficits have also been implicated in child conduct problems (Dodge & Newman, 1981) whereby aggressive children show a hostile attribution bias and poor problem solving skills (Richard & Dodge, 1982). These findings have been taken to illustrate that children with conduct problems may have impairments in their abilities to both perceive and understand another person's point of view or feelings.

1.2.5 Emotional deficits

Low empathy is also correlated with aggressive (Feschbach & Feschbach, 1969) and antisocial behavour (Ellis, 1982). This has been taken as further evidence of poor perspective taking abilities in the child.

1.2.6 Family and parenting characteristics

One of the most extensively studied of all of the correlates to conduct problems is family dysfunction and parenting practices (Frick, 1993; Loeber & Stouthamer-Loeber, 1986). The importance of family functioning is based on the view that firstly, conduct problems reflect a failure of the child to be adequately socialised and secondly, that parents are the primary socialising agents (Maccoby, 1992).

1.2.7 Parenting practices

Certain parenting practices have consistently been shown to predict childhood conduct problems. In a classic longitudinal by McCord (1979), poor parental supervision, harsh discipline, and a rejecting parental attitude all predicted delinquency. West & Farrington (1973) found similar results from the Cambridge Longitudinal Study. They reported that harsh or erratic parental discipline, cruel, passive or neglecting attitudes, and poor parental supervision (measured at age 8) predicted later juvenile convictions and self-reported delinquency.

Loeber & Stouthamer-Loeber (1986) conducted a meta-analysis of more than 300 studies on family factors and conduct problems. They concluded that the strongest

and most consistent effects were for: lack of parental monitoring and supervision, and lack of parental involvement with the child. Medium strength predictors included marital conflict and parental criminality and weaker effects were reported for harsh discipline, poor parental health and parental separation. An accumulation of two or more influences was found to have cumulative effects on the child and further elevate the risk of conduct problems.

A recent meta-analysis by Rothbaum & Weisz (1994) examined associations between parental care-giving characteristics and conduct problems (aggression, hostility and non-compliance). They concluded that 6 key variables were consistently shown to be related to conduct problems i.e: parental approval, guidance, positive motivation, synchrony (i.e., described as notions of availability for, and involvement with the child), coercive control and restrictiveness.

1.2.8 Coercive Family Processes Theory

The causal influence of parenting practices has been described by Patterson and colleagues (Patterson 1982; Snyder & Patterson, 1987). They provide a comprehensive formulation for the development of conduct problems as a consequence of negative parenting. Essentially, this theory highlights a behavioural level of analysis to understand the development of negative and antisocial behaviours relevant to childhood conduct problems.

The main hypothesis is that, the reinforcing contingencies embedded in the social interaction between parent-child are the determinants for the child's behavioural disturbance. According to this model, inept parenting is the proximal cause for entry into a coercive cycle of interactions between parent and child. When a child is being non-compliant, they are usually exhibiting a negative and resistant pattern of behaviour that may include overt verbalisations. This may result in parental withdrawal or surrender to the child (i.e., failing to follow through with a command) or the parent may then resort to more punitive or harsh methods of discipline in order to get compliance. This pattern sets into motion an escalating cycle of reciprocal coercion between parent and child, in which each person is reinforced for increasingly negativistic and/or aggressive behaviour.

1.2.9 Absence of positive parenting practices

The main focus for research to-date has been on negative maternal behaviour and discipline practices in relation to conduct problems. Less importance has been placed on the influence of positive interactions. However, Greenberg, Speltz & Deklyen (1993) pointed out that, there is a growing body of research that suggests that the absence of positive parenting behaviours may be as important as the presence of inept or coercive cycles in the etiology of conduct problems.

Greenberg et. al., (1993) described positive parenting practices as reflecting the quality of the relationship as indicated by positive social exchanges, anticipatory guidance and affective expressiveness of the parent. Pettit & Bates (1989) assessed

positive and negative parental behaviours in a sample of 4 year olds and reported that children of parents who initiated a higher frequency of positive verbal communication and physical proximity had lower aggression and withdrawal scores on the Child Behaviour Checklist (Achenbach & Edelbrock 1983) In contrast, disruptive behaviour was associated with ignored child initiations to the mother, but was unrelated to the number of overt disciplinary encounters.

Further evidence for the importance of positive parenting as defined by Greenberg et al. (1993) comes from a study by Gardner (1987). Gardner (1987) observed families of normal and behaviourally disordered pre-schoolers. The amount of time that problem children and their mothers spent in conflictual interactions was seven times greater than those observed in the normal children. They were also reported to have spent 50% less time in joint play and positive conversation. Although the overall amount of time in interaction was similar between the groups, 90% of the time was positive in normal families compared to 40% in problem families.

1.2.10 Parental psychopathology

Various other risk factors may impact on the family and contribute to child conduct problems. For example, the parents of conduct problem children often manifest stress-related disorders such as: anxiety and depression (Webster-Stratton & Hammond, 1988), substance abuse (Dishion, Reid, & Patterson 1988), and antisocial/criminal behaviour (Frick, Lahey, Hartgaden, & Hynd 1991). Marital discord is also associated with conduct problems (Emery, 1982). The mechanisms

by which these factors exert their effects on conduct problems are not clear, however, the most common explanation for why these factors are associated with conduct problems is through their mediating link with parenting practices. For example, a depressed mother or parent coping with marital problems may experience difficulty in applying a consistent parenting approach and may be less available to the child for positive interactions (Patterson, Reid & Dishion, 1992).

1.2.11 Attachment

The quality of the parent-child relationship has also been shown to be a relevant factor in the onset and development of childhood conduct problems. Attachment research has organised patterns of infant behaviour towards their caregiver according to four patterns termed: Secure, Avoidant, Ambivalent and Disorganised. Studies have documented a relation between insecure and disorganized attachment patterns and childhood aggression (Greenberg & Speltz, 1988; Lyons-Ruth, 1996; Lyons-Ruth, Alpern & Repacholi, 1993).

1.2.12 Contextual factors

Research has also shown that life events and stressors such as poverty, unemployment, crowded living conditions, and illness have deleterious effects on parenting and are related to child psychopathology, including conduct problems (Kazdin, 1986). However, Webster-Stratton & Herbert, (1995) suggest that "there is probably no link between social class and child conduct disorders." (p.20). According to Webster-Stratton & Herbert, (1995) social class as a variable includes

multiple confounding influences such as overcrowding, poverty and other potential risk factors and that when these are controlled there is little relation between social class and conduct problems.

1.2.13 Summary

A large number of variables are related to conduct problems in children. With the exception of coercive parenting however, research has not yet demonstrated the causal nature of these variables. Furthermore, focussing on the predictive relationship between risk factors and conduct problems fails to account for the possibility that some risk factors may not act as causal agents, but are correlated with conduct disorder for other reasons. It is also unlikely that all risk factors operate in the same manner for all children. Nevertheless, these findings have had an important impact on the treatment of conduct problems and the following section will concentrate on describing the current status of the treatment literature.

1.3 TREATMENTS FOR CHILDHOOD CONDUCT PROBLEMS

Reflecting the myriad of risk factors that have been identified as contributing to the onset of conduct problems, treatment interventions have been designed which attempt to remediate the child's difficulties. Some of the most promising available treatments are reviewed below.

1.3.1 Parent Management Training (PMT)

Parent training programmes aim to alter the overt behaviour of the child by teaching their parents principles and skills of managing and interacting with their child. Parent training programmes share the following core components. Firstly, they are based on the principles of operant conditioning theory which explain how behaviours can be acquired and influenced by a variety of stimuli and consequences. Secondly, parents are trained to alter the reinforcement contingencies that support the child's conduct problems and parents learn to change the interpersonal antecedents and consequences that are triggering and perpetuating the child's negative behaviours. Thirdly, the behaviours that are targeted for intervention are known correlates of conduct problems (e.g., coercive parenting, harsh and inconsistent discipline, parental monitoring). Fourthly, positive reinforcement is used and parents are taught to identify and reward (using social and token reinforcers) their child's pro-social and positive behaviours. Parents are also taught to appropriately employ mild sanctions and induction methods such as reasoning and explanation to reduce antisocial behaviour (Webster-Stratton & Herbert, 1995; Kazdin, 1997; Schoenwald & Henggeler, 1999).

Despite the many complex factors that influence the parent-child relationship, a large body of research has shown that changing inept or coercive parenting practices alone can produce treatment gains. Improvements have been observed in child behaviours in samples of various ages (e.g., 2 to 17 years old) and behavioural problems of varying levels of severity (Ruma, Burke & Thompson, 1996). Treatment gains have been observed in the short-term (Serkeitch & Dumas, 1996) and also in the long-term. For example, Long, Forehand, Wierson & Morgan (1994) reported maintenance of treatment gains 14 years post-treatment. Narrative (Kazdin, 1997) and meta-analytic reviews (Brestan & Eyberg, 1998) have concluded that treatment interventions based on parent training are the most effective psychosocial treatment for children with conduct problems.

1.3.2 Functional Family Therapy (FFT)

Kazdin (1997) outlined the principles and models of Functional Family Therapy (FFT). This involves an integrative approach to treatment that relies on both systems theory and behaviourism. From this perspective, clinical problems are formulated according to the function they serve within the family. However, specific problems are also targeted, for example, behavioural techniques may be applied to coercive parenting.

In Functional Family Therapy there is however an emphasis on the interdependencies and contingencies among the family members in both their day-to-day functioning and with specific reference to the problem. The family are

therefore encouraged to consider alternative ways of viewing the problem and to interact constructively. According to a review by Kazdin (1997), the available outcome studies using this treatment approach have produced beneficial effects.

In some cases Parent Management Training or Functional Family Therapy may not be a suitable intervention for children with conduct problems, for example, in cases of parental absence or psychopathology. It is therefore important to consider one to one interventions for conduct problems.

1.3.3 Cognitive Problem-Solving Skills Training

Treatments that target deficits in social skills are a useful intervention. There are many variations of Problem Solving Skills Training, however the following components are common across treatments. Firstly, the focus pertains to the children's approach to situations with an emphasis on the individuals thought processes rather than the behavioural outcome. Secondly, the child is coached in learning a step-by-step approach to managing interpersonal problems and in how to make self-instructions that direct attention to certain aspects of the problem. Games, stories or academic tasks are used at first and then the skills are gradually imported into real-life settings. The therapist adopts an active role in treatment by modelling verbal self-statements, applying the statements to problems, and providing cues to develop the correct use of skills. Positive results have been reported for problem-solving skills training, anger coping and impulse control approaches to treatment (Kazdin, 1997; Offord & Bennet, 1994).

1.3.4 Treatment for conduct problems: Unresolved issues

Outcome studies have shown that treatment interventions based at the individual, parent, and family level can produce positive results. However, these conclusions are tempered by several factors. Most of the studies on conduct problem children have been conducted in highly selected clinic samples of severely impaired children therefore, generalisability is a problem (Offord & Bennet 1994; Kazdin, 1997). A second problem pertains to the lack of rigorous randomized research designs to evaluate treatment effectiveness (Brestan & Eyberg, 1998). Thirdly, the intervention approach must be derived from empirically derived theories regarding the underlying mechanisms for conduct problems (Kazdin, 1997), however the sheer number of risk factors associated with conduct problems indicates a need to further delineate pathways to conduct problems to ensure treatment interventions target needs appropriately.

It is also important to bear cognizance to the fact that, although statistically significant treatment effects have been reported, this does not mean the same as clinically significant effects (Kazdin, 1997). In addition, several variables have been shown to moderate treatment outcome such as parental characteristics (e.g., compliance, pathology, substance abuse), family social circumstances (e.g., marital discord), child factors (e.g. severity of disturbance) and treatment factors (e.g., duration of treatment and therapist expertise) (Kazdin, 1997).

1.3.5 Summary

Several treatment interventions are associated with positive outcomes for children with conduct problems. However, responsivity to treatment is also influenced by child and parent factors, and not all children benefit from treatment. On the basis of the available research, it is also becoming increasingly recognised that children with conduct problems differ on a number of dimensions which may mediate or moderate treatment responsivity and also that exposure to different risk factors is different across individuals. This heterogeneity is important for understanding the development and treatment of conduct problems. The heterogeneity that characterises conduct problem children will be considered in the next section.

1.4 HETEROGENEITY OF CONDUCT PROBLEMS

Children with conduct problems show differences across several dimensions including: severity of disturbance; pervasiveness; age of onset; peer influences and attachments; level of deceit; level and type of aggression; and co-morbidity with other disorders (Carr, 1998). These points of divergence within conduct problem children have been taken as evidence that there are multiple pathways to the development of conduct disorder (Frick, 1998a; 1998b; Loeber & Schmalling, 1985; Moffitt, 1993). Researchers have therefore attempted to identify sub-types of children whose behaviour may have potentially different causal pathways. It has been argued that delineating such differences may have important clinical implications and may contribute to the development of further, more refined treatment interventions for conduct problems (Frick, 1998a).

1.4.1 Subtypes: Early approaches

Several attempts at sub-typing conduct problem children can be found in the literature. Earlier approaches classified children according to whether they were able to develop and maintain social relationships, i.e., the "undersocialised/socialised" distinction (Quay, 1986). Other researchers used the "salient symptom" approach. For example, Loeber and Schmalling (1985) propose a bipolar typology of "overt" (aggressive) and "covert" (non-aggressive) conduct problems. Children with conduct problems have also been classified according to whether they display reactive or proactive aggression (Dodge & Coie, 1987) and on the basis of co-morbid Attention Deficit Hyperactivity Disorder (Lynam 1996). In

the current nosological system however, age of onset has been used to delineate two sub-groups of conduct problems (DSM-IV, APA, 1994).

1.4.2 Age of onset

Research has shown that using age of onset has predictive utility. Boys with childhood-onset conduct problems i.e. onset before age 10 years, tend to become more severe over the course of development (Lahey & Loeber, 1994) and are more likely to show chronic pattern of antisocial and criminal behaviour into adulthood (Frick & Loney, 1999). Children in the early-onset group are also characterised by more aggression, more cognitive and neuropsychological deficits, autonomic system irregularities, greater impulsivity, and more dysfunctional family backgrounds (Frick, 1998a; Moffitt, 1993; Moffitt, Caspi, Dickson, Silva & Stanton, 1996). In considering causality for childhood-onset conduct problems, Moffit (1993) and Moffitt et. al., (1996) implicated both child and parenting factors. According to Moffit (1993) development occurs as a result of the

> juxtaposition of a vulnerable and difficult infant with an adverse rearing context that initiates...a transactional process in which the challenge of coping with a difficult child evokes a chain of failed parent-child encounters (Moffit, 1993, p.682).

Several studies provide empirical support for a relationship between difficult temperament and parenting factors in relation to conduct problems. For example, Maziade, Caperca, Laplante, Bouderault, Thiverge, Cote, Boutin (1985) found that children with a difficult temperament were more likely to develop behaviour problems under adverse family conditions such as: unclear rules, low consensus and

low consistency between parents. Sanson, Oberklaid, Pedlow & Prior (1991) reported that, children with difficult temperament had only a slightly raised incidence of adjustment problems relative to others, however, when difficult temperament occurred together with a poor mother-child relationship the level of risk was significantly increased. In a review of the literature pertaining to child and environmental factors, Lytton (1990) concluded that "the etiology of CD appears to fit a "vulnerability-stress" model of psychopathology" (p. 693).

In contrast to the childhood-onset group, according to Moffit (1993), "adolescent-onset" conduct problems reflect a different causal process whereby a rebellious personality is rejecting of the traditional status hierarchies and the individual shows an "exaggeration" of normal adolescent development which ends when they enter into their adult roles.

1.4.3 Limitations with the "childhood-onset" typology

Whilst there has been a general acceptance of the childhood-onset versus adolescent onset typology, the value of this approach has been questioned. For example, Brame, Nagin & Tremblay (2001) state that:

> The consensus is surprising because the two categories solution aggregates a large variety of antisocial phenomena that could have different etiologies and developmental trajectories, and thus would probably need different prevention and treatment strategies. (p.503)

Frick (1998a; 1998b) and Frick & Ellis (1999) pointed out some important distinctions within the childhood-onset pathway that may further enhance our understanding of this high risk population. According to Frick:

> there may be some important differences in the types of "temperamental vulnerabilities" that are present in children in the childhood-onset pathway and these different vulnerabilities may have unique interactions with "adverse rearing contexts".(Frick, 1998a, p. 63).

Frick et. al., (1994) and Frick (1998a; 1998b) described an approach whereby children in the childhood-onset trajectory group are subdivided on the basis of their temperamental characteristics. This research has made several important contributions to understanding childhood conduct problems and will therefore be described in detail in the next section.

1.5 CALLOUS-UNEMOTIONAL TRAITS

Influenced by the work on psychopathy in adults, Frick et. al., (1994) identified a sub-group of children with conduct problems who showed a pattern of symptoms considered indicative of the presence of a "callous and unemotional interpersonal style". The relevant literature on psychopathy will be described below to provide a context to Frick's work.

1.5.1 Psychopathy in adults

Descriptions of the adult psychopath refer to their characteristically unreliable, impulsive and irresponsible behaviours as well as their profound egocentricity and inability to form and maintain long lasting and meaningful social relationships. Psychopaths can exude a superficial exterior of charm but this is often used as part of their incredible skill at manipulating and deceiving others. One of the most defining features of the psychopath however, is his lack of sincere social emotions such as: love, empathy, guilt, shame and remorse.

Our understanding of psychopathy has been considerably advanced by a model of psychopathy developed by Hare, Harpur and colleagues (Hare, Hart & Harpur, 1991; Harpur, Hare & Hakistan, 1989). They developed an assessment procedure known as The Psychopathy Checklist-Revised (PCL-R; Hare, 1991) which combines information based on interviews and file reviews to assess 20 traits (see Table 1.0, p. 36) considered relevant to the construct of psychopathy .

1.5.2 Two factor model of psychopathy

Initial studies using factor analyses revealed two dimensions of psychopathy. The first dimension includes interpersonal and affective traits and the second dimension includes characteristics of an unstable and antisocial lifestyle. Table 1.0, p. 36 shows the two factor structure.

Table 1.0. Items and factor structure of the PCL-R

FACTOR ONE: Selfish, callous and remorseless use of others
Glibness/Superficial Charm Grandiose Sense of Self-worth Conning/Manipulative Pathological Lying Shallow Affect Callous/Lack of Empathy Lack of Remorse or Guilt Failure to Accept Responsibility for Own Actions
FACTOR TWO: Chronically unstable and antisocial lifestyle
Need for Stimulation/Proneness to boredom Parasitic Lifestyle Poor Behavioural Controls Early Behavioural Problems Lack of Realistic, Long-Term Goals Impulsivity Irresponsibility Juvenile Delinquency Revocation of Conditional Release
Other Items
Promiscuous Sexual Behaviour Criminal Versatility Many short-term marital relationships

1.5.3 Correlates of psychopathy

The presence of psychopathic personality traits, as assessed by the PCL-R have been shown to predict several clinically important outcomes in adults including: a

higher number and more versatility in offending (Hare, McPherson & Forth, 1988); violent recidivism, sexual recidivism and poor post release behaviour (Hart, Kropp, & Hare, 1988); dangerousness (Hare, 1991) and poor responsivity to current treatment programmes (Harris, Rice & Cormier, 1994).

1.5.4 Three factor model of psychopathy

Recent work has refined the construct of psychopathy to a three factor model. Cooke & Michie (1997) have shown that 13 items of the PCL-R form a higher order factor which is underpinned by three independent, but related factors. Items on factor 1 relate to the psychopaths "Arrogant and Deceitful Interpersonal Style" whereas items on factor 2 relate to the psychopaths "Deficient Affective Experience" and items on factor 3 relate to the "Impulsive and Irresponsible Behavioural Style". The items loading on each of these three factors are presented in Table 1.1, p. 37.

Table 1.1. Three Factor Structure of Psychopathy in Adults

FACTOR 1: Arrogant and Deceitful Interpersonal Style
Glibness/Superficial Charm Grandiose Sense of Self-worth Pathological Lying Conning/Manipulative.
FACTOR 2: Deficient Affective Experience
Shallow Affect Callous/Lack of Empathy Lack of Guilt and Remorse Failure to accept responsibility
FACTOR 3: Impulsive and Irresponsible Behavioural Style
Need for Stimulation/Proneness to boredom; Impulsivity Irresponsibility Parasitic Lifestyle Lack of long-term realistic goals.

1.5.5 The Psychopathy Screening Device for Children (PSD)

The Psychopathy Screening Device (PSD: Frick & Hare, in press, see Appendix 6) was developed in an attempt to assess childhood characteristics analogous to the symptoms of psychopathy in adults. Important and legitimate concerns about using the term "psychopath" when referring to children have been expressed and it is vital that the ethical and practical issues are debated properly (Frick, 1998a). However, as Hare (1994) notes "psychopathy does not suddenly spring, unannounced, into existence in adulthood. The precursors .... first reveal themselves early in life" (p. 191). He further asserts that failing to recognise the signs of this disorder in children

> may doom parents to .... vain attempts to discover what is wrong with their child and with themselves [and] lead to a succession of inappropriate treatments and interventions – all at great financial and emotional cost (Hare, 1994 p.195).

Initial research with children aged between 6 and 13 years demonstrated that, similar to the adult research, two psychological dimensions related to conduct problems exist (Frick et. al., 1994). The items loading on each factor are presented in Table 1.2, p. 39.

Table 1.2: Two Factor Structure of Psychopathic Traits in Children

FACTOR ONE: Impulsive Conduct Problems
Brags about accomplishments
Becomes angry when corrected
Thinks he/she is more important than others
Acts without thinking
Blames others for mistakes
Teases other people
Engages in risky or dangerous behaviour
Engages in illegal activities
Keeps the same friends*
Gets bored easily
FACTOR TWO: Callous-Unemotional Traits
Concerned about schoolwork*
Feels bad or guilty*
Emotions seem shallow
Does not show emotions
Acts charming in ways that seem insincere
Is concerned about the feelings of others*
* *scored inversely*

1.5.6 Differential correlates of the two Psychopathy Screening Device factors

Studies by Frick and colleagues have shown that although the two PSD sub-scales are significantly correlated ($r = .50$, $p < .001$, Frick 1998b), they have differential correlates which are consistent with the adult psychopathy research and a sub-type of conduct problem children appear to have callous-unemotional traits (Frick & Ellis, 1999) and the presence of these traits has predictive validity. For example, callous-unemotional traits identify a group of children with more severe conduct problems (Christian, Frick, Hill, Tyler & Frazer, 1997). This sub-group have also demonstrated higher scores on measures of thrill and adventure seeking (Frick, Lilienfeld, Ellis, Loney & Silverthorn, 1999) as well as lower sensitivity to cues to punishment when a reward-oriented response set was primed (O'Brien & Frick, 1996). These children also responded with lower levels of reactivity to threatening

and emotionally distressing stimuli (Blair, 1999) and have been found to be less distressed by the negative effects of their behaviour on others (Blair, Jones, Clark & Smith, 1997). Impairments in both moral reasoning and empathic concern towards others have also been documented (Blair, 1999).

In contrast, children with conduct problems who do not have co-occurring callous-unemotional traits have been shown to be highly reactive to emotional and threatening stimuli (Loney, Frick, Clements & Ellis, unpublished). They have also been shown to have aggressive and antisocial behaviours that are more strongly associated with impaired intelligence (Loney, Frick, Ellis, & McCoy, 1998).

1.5.7 Attention Deficit Hyperactivity Disorder and conduct problems

As noted earlier, childhood conduct problems show a high co-morbidity with Attention Deficit Hyperactivity Disorder. This has led some researchers to propose that it is this group of children who are most at risk of developing psychopathy.

According to Lynam (1996; 1997) children with a co-morbid condition show a particularly severe form of antisocial behaviour and a number of neuropsychological correlates (e.g., poor passive avoidance learning, cortical underarousal, deficits in executive functions) that make this group of children seem similar to adults with psychopathy. In contrast, children with either conduct problems or Attention Deficit Hyperactivity Disorder do not show these deficits.

Barry, Frick, Grooms, McCoy, Ellis, Loney. (2000) attempted to integrate Lynam's theory (1996, 1997) with the work based on the PSD. They divided clinic-referred children (between ages 6 and 13 years) into three groups: those who had both an ADHD diagnosis and a conduct-problem diagnosis (e.g., either ODD or CD); those with ADHD only; and a control group. These groups were further divided into those with high and those with low CU traits. A cut-off score of 7 on the CU factor of the PSD was employed. Of 28 children with a co-morbid condition, 12 had low scores and 16 had elevated scores.

The children were then compared on several indices that are theoretically related to psychopathy including: a measure of a reward-dominant response style, a measure of visuo-spatial reasoning, a measure of a preference for thrill and adventure seeking, and a measure of anxiety. Barry et. al., (2000) had predicted that those children with a co-morbid condition would show characteristics that were consistent with the research on adult psychopaths.

However, the results revealed that it was the children who had both symptoms of Attention Deficit Hyperactivity Disorder in combination with severe conduct problems and also high rates of callous-unemotional traits (above the cut-off score) who exhibited features associated with psychopathy. Barry et. al., (2000) therefore concluded that the combination of Attention Deficit Hyperactivity Disorder nad conduct problems in children is not sufficient to capture the construct of

psychopathy and instead, it appears necessary to consider the presence of callous-unemotional traits.

1.5.8 Psychopathy Screening Device: Three factor model

Similar to the research on adult psychopathy, recent research using the PSD has shown that a three factor model may better explain these characteristics in children. Frick, Bodin & Barry (2000) reported that factor analysis revealed a narcissism sub-scale which consisted of 7 items, an impulsivity sub-scale which consisted of 5 items and a callous-unemotional sub-scale which consisted of 6 items. The three factor model is displayed on Table 1.3, p. 42.

Table 1.3. Three Factor Model of Psychopathic Traits in Children

Narcissism	Impulsivity	Callous-Unemotional
Thinks he is more important than others	Acts without thinking	Is concerned about the feelings of others
Brags excessively about his accomplishments	Does not plan ahead	Feels bad or guilty (I)
Uses or "cons" others	Engages in risky activities	Is concerned about schoolwork (I)
Can be charming, but in ways that seem insincere	Blames others for mistakes	Keeps promises (I)
Teases others	Gets bored easily	Does not show emotions
Becomes angry when corrected		Keeps the same friends (I)
Emotions seem shallow		

(I) Scored inversely

The association of the three factors with several external criteria were examined by Frick et. al., (2000). All three sub-scales were moderately to strongly associated

with the DSM-IV criteria for Conduct Disorder, Oppositional Defiant Disorder and Attention Deficit Hyperactivity Disorder. However, there were divergent associations among the PSD sub-scales and DSM-IV criteria. Both the narcissism and impulsivity sub-scales were highly related to the Oppositional Defiant Disorder, Conduct Disorder and Attention Deficit Hyperactivity Disorder, but, in comparison the callous-unemotional scale showed only a weak relationship when the other dimensions were controlled.

1.5.9 Etiology of callous-unemotional traits

The relevant research findings pertaining to both adult psychopaths and children with callous-unemotional traits have shown that these individuals have deficits in the processing of emotional stimuli and poor passive-avoidance learning. They are also apparently fearless and are characteristically sensation seeking. These findings have been used as evidence to suggest that a unique etiology underpins their antisocial behaviour. To-date the field has not yet been able to provide a definitive theory to explain the development of psychopathy. However, genetic and biological factors as well as temperamental and familial factors have been implicated (Mealey, 1995).

As noted above, parenting factors and early childhood experiences occupy a central role in the causal explanations proposed for childhood conduct problems. However, perusal of the literature pertaining to psychopathy reveals a dispute regarding the importance of childhood experiences. For example, some of the most eminent

writers in the field have argued that the etiological basis of psychopathy is not related to any early traumatic experiences or to any particular type of family background (Cleckley, 1976).

However, a study by Marshall & Cooke (1998) found that negative childhood experiences characterised by parental antipathy (i.e, marked dislike, criticism, hostility directed at the child by his parents), and parental indifference to and neglect of the child were associated with psychopathy. Hare (1994) also stated that although he "could find no convincing evidence that psychopathy is the direct result of early social or environmental factors" (p. 206) he did acknowledge that "poor parenting practices or adverse childhood experiences...play an important role in shaping" the disorder. Similarly, Lykken (1995) posits an interactive model between biological vulnerablity and the quality of parenting to explain this disorder.

The pursuit of research whereby the characteristics of psychopathy can be classified in children and examined in relation to other known risk factors for antisocial behaviour is likely to make a valuable contribution to disentangling the role of childhood experiences. This issue was addressed in a recent study by Wootton, Frick & Shelton, (1997) who examined the role of parenting practices in children with callous-unemotional traits.

According to Frick (1998a), callous-unemotional traits develop consequential to the child's temperamental style which is characterised by low behavioural inhibition

that makes him difficult to socialise. According to cumulative or interactive models, the presence of callous-unemotional traits and dysfunctional parenting would therefore be viewed as being particularly iatrogenic to the child. However, Wootton et. al., (1997) note that, if one assumes that callous-unemotional traits reflect a "hard-to-socialise" temperament, then one would predict that children with these traits would be at high risk for developing conduct problems in many child-rearing environments. It could therefore be expected that in children with callous-unemotional traits, the quality of parenting practices would not be strongly associated with the development of conduct problems.

In contrast, in children without these traits (who presumably are less likely to have this hard-to-socialise temperament) the quality of parenting should play an important role in the development of conduct problem behaviour. This distinction is analogous to Lykken's (1995) "sociopath" who is thought to develop antisocial behaviour as a result of inadequate child-rearing environments and the "primary psychopath" who, because of a difficult to socialise temperament is at risk of developing antisocial behaviour in all child-rearing environments.

Wootton et. al., (1997) tested the relationship between callous-unemotional traits and parenting in a sample of 136 consecutive clinic referrals between the ages of 6 and 13 years, and 30 matched community controls. The Alabama Parenting Questionnaire (Frick, 1991) was used to tap the 5 dimensions of parenting that have been most consistently linked to the development of conduct problem behaviour i.e.,

lack of parental involvement; failure to use positive control strategies; poor parental monitoring and supervision; inconsistent discipline; and the use of corporal punishment.

The results indicated that increasing levels of problematic parenting predicted high rates of conduct problems in children who did not have callous-unemotional traits but that parenting was unrelated to conduct problems in children high on callous-unemotional traits.

On the basis of the research findings using the PSD, (Frick, 1998a) outlined two pathways to explain the development of conduct problems in children. These are described in figure 1.1, p. 46.

Figure 1.1. Frick's model to explain the different correlates and causal mechanisms in childhood conduct disorder

Conduct disorder subgroup	Unique correlates	Proposed Mechanism
Impulsive Conduct Disorder	Ineffective parental socialization practices, low intelligence, and deficits in social cognition	A heterogeneous set of causal factors that lead to failure of the child to develop adequate impulse control, the ability to recognize the consequences of his or her behaviour, and the ability to use social problem-solving skills.
Callous-Unemotional Conduct Disorder	Neuropsychological correlates related to autonomic irregularities, a reward-dominant response style, low fearfulness toward novel and dangerous activities, and strong family history of antisocial behaviour.	A temperament characterized by low behavioural inhibition which affects the development of the affective components of conscience (e.g., guilt, empathy). The temperament and resulting callous interpersonal style makes the child less responsive to typical socialization pressures.

Source: Frick (1998a). Conduct Disorders and Severe Antisocial Behaviour.

1.6.1 Psychopathy Screening Device: Contributions and caveats

There is a general consensus that deficits in moral affect, as well as interpersonal features of grandiosity, manipulativeness and superficial charm designate a particularly severe group of adult offenders (Hare, et. al., 1988; Hart, et. al., 1988; Hare, 1991) adolescents (Forth, et. al., 1990) and children (Frick et. al., 1994, 1998b). With respect to understanding and treating conduct problems in children this has led Frick (1998a) and Wootton et. al., (1997) to argue that by ignoring the moderating influence of callous-unemotional traits, earlier research may have underestimated the relationship between inept parenting and conduct problems for children without these traits and overestimated it for children with these traits. However, despite the important contributions based on the research using the PSD several limitations should be noted.

The callous-unemotional model is still in its early stages and most of the published studies use data from one laboratory and from overlapping samples (Frick 1998b). In addition, the development of the PSD was explicitly tied to an adult model of psychopathy, namely the PCL-R which was standardised on incarcerated adult male offenders. Therefore the generalisability of this model and applicability of the construct to children remains to be firmly established.

Furthermore, it should be noted that responsivity to treatment of callous-unemotional traits in children has not been empirically tested. Furthermore, the assessment of parenting in the study by Wootton et. al., (1997) is limited in its

range. A substantial body of empirical research exists which has shown that certain types of parenting practices are related to the development of the moral emotions. Whilst the Alabama Parenting Questionnaire does assess parenting practices known to be related to the development of conduct disorder, it does not measure parenting practices known to be related to higher levels of empathy and guilt in children. This is an important limitation. In the following section, the relevant research to socialisation influences on the development of children's moral affect will be described which will then progress to the formulation of the specific research aims of this study.

1.6 INFLUENCES ON THE DEVELOPMENT OF MORAL AFFECT

Amongst the most defining features of adult psychopaths and children with a callous-unemotional interpersonal style is their lack of empathy and guilt. As will be detailed below, the importance of emotion in relation to social functioning is well recognised within both the criminological and developmental literature.

Mealey (1995) examined contemporary models of emotion in relation to psychopathy and described Plutchik's (1980) evolutionary model of emotion. According to Mealey (1995), Plutchik (1980) argues that there are eight basic or "primary" emotions (such as fear, anger and disgust) which are experienced by all individual whereas the moral affect is more complex and can occur with varying combinations and intensities of the primary emotions.

1.7.1 Empathy

In the developmental literature, empathy has been defined as:

> an affective response that stems from the apprehension or comprehension of another's emotional state or condition and is similar to what the other person is feeling or would be expected to feel (Eisenberg, 2000, p. 671).

Cohen & Strayer (1996) note that contemporary models of empathy view this emotion as having both affective and cognitive responsiveness. The affective component involves an emotional response which is triggered by another's affective state, whereas the cognitive component involves an understanding and comprehension of the other's feelings. However, Cohen & Strayer (1996) note that neither component alone, fully accounts for empathy. For example, "emotional

contagion" responses have been observed in infants who have to yet developed complex perspective taking skills, and con artists, such as the adult psychopath, may have particularly refined perspective-taking skills but are deficient in affective responses.

Despite differences across studies in types of measures, methods, and populations, or whether the affective or cognitive component of empathy has been emphasised, reviews of previous research with children and adults generally suggest a positive relation with empathy and pro-social and socially competent behaviour (Eisenberg & Miller, 1987). Whereas, low empathy has been shown to be associated with antisocial attitudes and aggressive behaviour (Ellis, 1982; Hare, 1991; Miller & Eisenberg, 1988).

1.7.2 Guilt

Fergusson and Stegge (1998) define guilt as "an agitation-based emotion or painful feeling of regret that is aroused when the actor actually causes, anticipates causing, or is associated with an aversive event" (Fergusson & Stegge, 1998, p. 20). Guilt has also been considered as having a crucial role in behaviour.

> shame and guilt are generally regarded as quintessential moral emotions that promote moral, interpersonally responsible behaviour while, in turn, inhibiting all manner of sins. (Tangney, 1995, p. 1136)

According to Eisenberg (2000), because guilt is focused on a behavioural event or transgression, it serves to motivate remorseful acts (e.g, restitution, confession, apologising) and that a person who feels guilty both accepts responsibility and is

motivated to make amends (Fergusson & Stegge, 1998; Hoffman, 1998; Tangney, 1991).

Observational studies suggest that young children experience rudimentary forms of guilt and shame and parental reports have shown that guilt increases from about 14 to 24 months of age (Zahn-Waxler & Robinson, 1995). Discomfort about behavioural wrongdoings are apparent as are apologising, compliance with standards of conduct, and concern about other's wrongdoing from about 21 to 33 months of age (Kochanska, DeVet, Goldman, Murray, 1994). Prior to age 8 however, children's concerns relate primarily to the outcome of their behaviours thus their emotions are outcome-dependent (Harris, 1989) but from the age of 8 onwards, children's reports about guilt and shame start to approximate those provided by adults.

According to the literature, at around age 8, children can describe situations where they would feel guilty. For example, Fergusson, Stegge & Damhuis (1991) found that children between the ages of 8 and 11 years sorted a number of items according to whether they were characteristic of their experiences of guilt, shame, both emotions, or neither. Guilt was associated with having done something naughty, a sense of regret, a desire to make reparation, and anger at the self.

1.7.3 Development of moral affect

The mechanism whereby moral affect develops is an important area of study and to-date research has pointed to the importance of both individual and socialisation factors (Zahn-Waxler & Radke-Yarrow, 1990).

1.7.3.1 Socialisation of moral emotions

Several writers have pointed out that moral affect is influenced by the socialisation process (Hoffman, 1970; Mealey, 1995; Zahn-Waxler & Radke-Yarrow, 1990). In a recent review of the literature, Eisenberg (2000) concluded that there is consistent evidence which shows that certain types of parenting practices have been shown to be positively associated with higher levels of pro-social behaviours and lower levels of antisocial behaviours. These parenting practices are referred to as "inductions" or "inductive methods".

Induction has been described as the process whereby parents use their children's acts of inappropriate or unacceptable social behaviour as an opportunity to teach, inform, and reason with the child about their behaviour (Hoffman, 1970). Effective induction types include: other-oriented inductive messages that focus on the consequences of the child's action on the behaviour and feelings of others, and information about the principles and moral prohibitions about the behaviour (Hoffman 1970; Zahn-Waxler, Radke-Yarrow & King, 1979).

According to Eisenberg & Miller (1990), inductive methods promote prosocial responding in several ways. The child's attention is focussed on the consequences that his behaviour has on the other persons feelings and behaviour therefore the child may learn perspective taking skills and develop the ability to empathise with others. Children also learn to accept responsibility by making causal attributions about their behaviour in relation to the feelings of others.

Eisenberg & Miller (1990) also point out that inductive discipline practices usually occur within a supportive context and that when an inductive message is accompanied by a strong expression of parental emotion, the emotion is more likely to be interpreted by the child in terms of the value that the parent assigns to the situation, rather than indicating impending physical punishment or personal threat. As a result, the child may attend to the information being relayed by the parent about the behaviour.

A fourth factor is that, with inductions children should be more likely to attribute cause of their own negative arousal to their transgression (rather than to the threat of punishment or the socialiser) and thus develop internally versus externally based motivations for behaviour.

Inductive methods also teach children that they are both responsible for the consequences of their behaviour and for making reparation. This is achieved when

parents provide information to the child about responsible behaviour. Finally, when parents use these methods of discipline the child is also observing a positive model.

Certain aspects of the inductive-rearing context may promote or impede children's acquisition of pro-social behaviours, for example, research has shown that the effect of induction appears to be enhanced by several factors including parents' infrequent use of power assertive tactics (Abelman, 1985), higher use of emotional expressiveness during discipline encounters (Zahn-Waxler et. al., 1979) and prior use of such techniques (Dlugokinski & Firestone, 1974). Although the socialisation process is important, the presence of individual differences in emotion even in the early days of life have highlighted the need to consider individual factors in relation to moral affect.

1.7.3.2 Individual factors and moral affect

Eisenberg (2000) argued that:

> it is likely that dispositional (personality or temperamental) characteristics of people play a role in the proclivities to experience empathy, guilt and shame (Eisenberg 2000, p. 670).

Some writers have adopted this position and suggest that some antisocial individuals are simply born without the capacity for empathic responding (e.g., Cleckley, 1976). These deficits may be related to a lack of general hypoarousal and/or poor conditionability (Hare, 1975) and may be immune to the effects of a positive environment. For example, Gibbs (1987) stated:

> along a continuum of individual differences in temperament and natural disposition, individuals with something approximating empathic incapacity do exist.....although such individuals may accomplish non-egocentric thinking in a strictly cognitive sense through role-taking opportunities, they would not accomplish empathic motivation for their possible consideration of others even with the best inductive discipline; hence even better parenting might be to little or no avail. (p. 309).

There is evidence that certain temperamental attributes are stable across time. For example, Guerin & Gottfreid (1994) conducted cross-time correlations in a sample of children and noted that the temperament dimensions assessed at age 2 years correlated with the same dimensions assessed during the preschool and middle childhood periods. Similar results have been reported in relation to empathy whereby stable individual differences have been documented. In a comprehensive review of the literature Zahn-Waxler & Radke-Yarrow (1990) reported that the research has shown that from birth, babies both respond to, and imitate, emotions in other people and that as early as 2 years of age, children show the

> cognitive capacity to interpret the physical and psychological states of others; the emotional capacity to experience affectively the states of others and the behavioural repertoire that permits the possibility of trying to alleviate the discomfort of others (p. 114).

The possibility that low empathy reflects a temperamental attribute is essentially the stance of Frick and colleagues (Frick, 1998a; Wootton et. al., 1997) in their explanation of the causal mechanisms involved in the explanation of callous-unemotional traits in children with conduct disorders. However, it is pertinent to note that the only empirical data available to support this view was based on a study whereby the parenting practices specifically known to predict moral affect were not in fact assessed (Wootton et. al., 1997).

It is possible that temperament, parenting practices and moral affect are inter-related and impact on each other. For example, in considering the role of temperament in relation to conduct problems, Rothbart & Bates (1998) posit several potentially plausible mechanisms where such factors may relate to childhood conduct problems. Two of the these are particularly relevant to the current study. A "direct linear effect" may occur where an extreme on a given temperamental dimension is considered to be synonymous with disorder and an "indirect linear effect" which refers to the process whereby a child's temperament has a negative impact on the environment, for example, where a demanding and irritable infant elicits negative parental responses such as inept discipline.

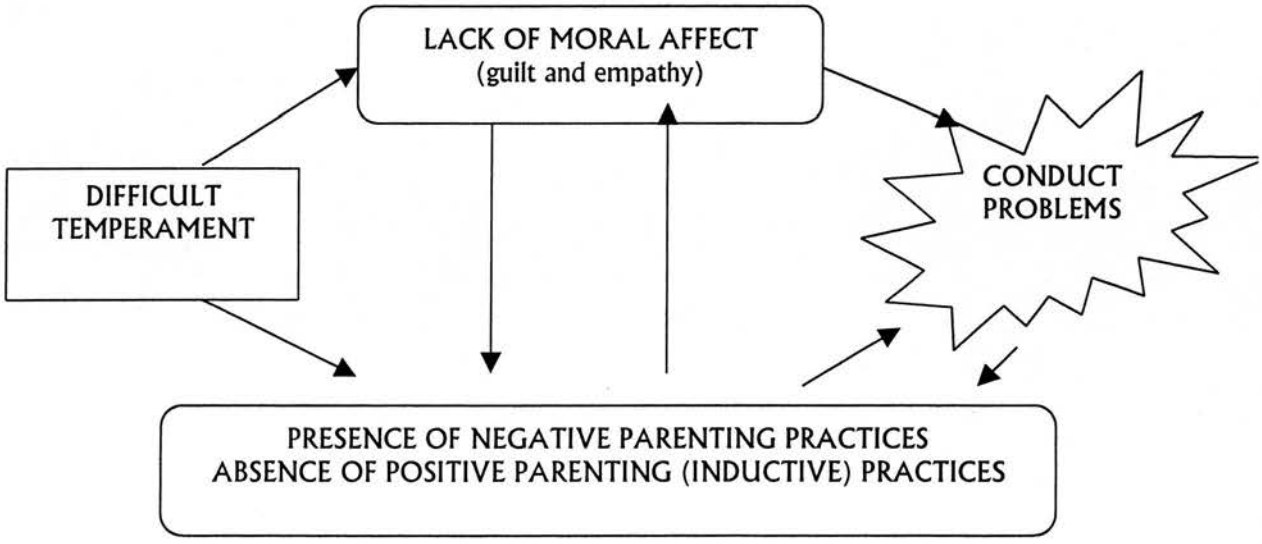
Although recent developments in the study of childhood conduct problems have suggested that, in children who have low levels of moral affect i.e., callous-unemotional traits, parenting may bear little influence on the development of their conduct problems. This conclusion should remain tentative.

Firstly, these findings are based within the context of a large literature in which the importance of both child and parenting factors in relation to childhood conduct problems has been clearly demonstrated. Secondly, the available research also points to the possibility of bi-directional and transactional influences between many of the relevant risk factors including parenting and moral affect. Thirdly, the conclusions reached by Wootton et al., (1997) are based on a narrow assessment of

parenting and neglect findings from developmental research whereby specific types of parenting practices (i.e. inductive methods) have been shown to relate to children's levels of moral affect.

In an attempt to synthesise the research findings the model in figure 1.2, p. 57 was designed as a heuristic guide to the possible relationships between temperament, moral affect and parenting.

Figure 1.2 Descriptive model of possible relationships between variables known to be associated with childhood conduct problems.



1.7 RESEARCH AIMS, QUESTIONS AND HYPOTHESES

On the basis of the preceding literature review, three main research questions have been identified. First, do children with and without conduct problems differ on measures or difficult temperament, moral affect, and their exposure to both negative and positive parenting practices, and are these factors related to conduct problems ? Second, what is the role of temperament in relation to parenting and moral affect ?. Third, what is the role of parenting in relation to moral affect ? In an attempt to answer each of these questions, the following hypotheses were tested.

1.7.1 Hypotheses

1. Children in the conduct problem group will have higher scores on difficult temperament, negative parenting and parental reports of childrens' low moral affect (i.e., callous-unemotional traits) and lower scores on self-reported moral affect and positive parenting than children in the non-conduct problem group.

2a. Difficult temperament, parental reports of childrens' low moral affect (i.e, callous-unemotional traits), and negative parenting will be positively correlated with childhood conduct problems

2b. Children's self-reported moral affect and positive parenting will be negatively correlated with childhood conduct problems.

3. Difficult temperament will be positively correlated with parental reports of negative parenting practices and negatively correlated with parental reports of positive parenting practices.

4. Parental ratings of difficult temperament will be positively related to parental ratings of childrens' low moral affect (i.e. callous-unemotional traits) and negatively related to children's self-reported moral affect.

5. Parental reports of negative parenting will be positively correlated with parental reports of childrens' low moral affect, (i.e. callous-unemotional traits) and negatively correlated with childrens' self-reported moral affect.

6. Parental reports of positive parenting will be negatively correlated with parental reports of childrens' low moral affect (i.e. callous-unemotional traits) and negatively correlated with childrens' self-reported moral affect.

CHAPTER 2 METHODOLOGY

2.0 OVERVIEW OF METHODOLOGY SECTION

The aim of the present study was to examine the role of difficult temperament, childhood moral affect and parenting practices in relation to childhood conduct problems. The following section will describe the process and decisions that led to the design and assessment measures used.

2.1 DESIGN

Several methodologies would allow for an examination of the role of child factors and parenting factors in relation to the development of conduct problems. For example, longitudinal research is acceptable. However, this type of study is time-consuming and expensive. Attrition rates can also be problematic and also the theories guiding the study can become outdated (Marshall, 1996). An alternative method involves a random sampling design. This permits comparisons across the population and increases the generalisability of findings. However, random sampling requires the testing of a large number of individuals to ensure that the target problem is included. Given the time constraints imposed on this study, this method was also discounted. Since the aim of the current study was to examine the role of child and parenting factors in relation to childhood conduct problems it was considered important to include children with, and without, conduct problems to ensure that there was a spread of scores. A cross-sectional case-control method was therefore employed where a target group of conduct problem children were recruited and compared to a non-conduct problem control group.

2.2 PARTICIPANTS

Forty-four caucasian males between the ages of 8 and 11 years were recruited. Participants were from two groups: children with conduct problems, and children without conduct problems. The conduct problem group included 21 boys who attended either child mental health services (N=14) or special educational establishments (N= 7) because of symptoms of conduct problems. The control group

included 23 male children who attended a mainstream primary school and were identified by their class teacher as being "well-behaved".

Of 39 conduct problem children invited to take part in the study, 24 parents (62%) consented to participation. Two children were excluded during their interview due to low performance on verbal IQ and one child was excluded due to non-compliance with the assessment process. In line with Barry et. al., (2000) children with a diagnosis of Attention Deficit Hyperactivity Disorder were not excluded (N= 4). In the control group, 35 children were invited to take part and 24 parents (69%) consented to participation. One child was absent from school due to illness during the data collection phase of the study and was therefore unable to take part.

2.2.1 Age range

A minimum age of 8 years was selected due to the documented developmental shifts that occur in both cognitive and emotional functioning during the beginning of the middle-childhood phase, i.e., approximately the 5 to 8 year age period (White, 1965, Shiner, 1998) and a maximum age of 11 years was employed due to the developmental shifts in cognitive and emotional capacities as a child matures into adolescence, and the co-occurring hormonal influences on behaviour.

2.3 MATERIALS AND METHODS

Several measures were employed to assess childrens' conduct problem symptoms, temperament, their level of moral affect, the type of parenting practices they experienced and their level of verbal IQ.

2.4 CONDUCT PROBLEMS

Alternative methods of assessing conduct problem symptoms exist. For example, clinical interviews allow for the collection of a considerable amount of qualitative information but these procedures are time-consuming and their reliability and validity can be problematic for research purposes. Structured clinical interviews such as the Diagnostic Interview Schedule for Children (DISC; Shaffer, Fisher, Piacentini, Schwab-Stone, & Wicks, 1991) can also be used. These instruments have improved reliability and validity but only for children over the age of 10 years (Edelbrock, Costello, Dulcan, Kallas, & Conover (1985). Furthermore, these assessments require approximately one hour of administration time. Rating scales have also been widely used in the assessment of conduct problems. Rating scales permit the assessment of a broad range of behaviours and require little time to administer, score and interpret. It was therefore considered appropriate to select a rating scale to assess the child's level of conduct problems.

2.4.1 Child Behaviour Checklist (CBCL, Achenbach, 1991) (See Appendix 1)

The CBCL is a reliable and valid assessment of a wide range of behaviour problems for children aged between 2 and 18 years. There are parallel versions for parents,

teachers, youths, observers and clinicians. These are self-administered assessments which take approximately 15 to 20 minutes to complete. There are 112 items, which are rated according to whether it is: 0 = Not True (as far as you know), 1= Somewhat or Sometimes True; or 2 = Very True or Often True. The full CBCL provides a score on two broad band (externalizing and internalizing) and 9 narrow-band syndromes (withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent behaviour and aggressive behaviour). For the purposes of the current study, the items loading on the externalizing dimension on the CBCL (i.e., aggression and delinquency) were summed to provide a measure of the child's conduct problems.

The externalizing dimension includes the aggressive behaviour and delinquent behaviour sub-scales. The aggressive behaviour includes: arguing, bragging, meanness to others, demanding attention, destroying own things, disobedience at home and at school, jealousy, fighting, attacking, screaming, showing off, stubborn, mood changes, talking too much, teasing others, temper tantrums, threatening behaviour, and being loud (Carr, 1998). The delinquency behaviour sub-scale includes: keeping bad companions; telling lies and cheating, keeping company with older peers, running away, setting fires, stealing at home and outside, swearing, truanting, using alcohol and/or drugs, vandalism, thinking about sex too much and lacking in guilt[1] (Carr, 1998).

[1] Lacking in guilt was excluded from the conduct problem ratings since guilt was measured separately under the rubric of moral affect.

Both the parent report and teacher report forms were administered. This is consistent with recommendations in the literature which advocate that combined ratings are the optimal method of assessing childhood emotional and behavioural problems (Hogg, Rutter, & Richman, 1997).

2.5 EARLY INFANT TEMPERAMENT

Temperament has been shown to predict later conduct problems and it is thought that temperament is also related to children's moral affect. Difficult temperament is also thought to trigger negative parenting. It was therefore considered important to assess early infant temperament in order to ascertain the likely direction of effects. A number of standardized assessment procedures for measuring temperament in early infancy are available. For example, Thomas & Chess (1977) employed standardised parent interviews to determine temperament. However, McMahon & Estes (1997) note that these procedures present difficulties in terms of lengthy administration and scoring procedures and problems with respect to the adequacy of their psychometric properties. Parent questionnaires have also been used to assess temperament. These measures are considered to have good "ecological validity" (Rothbart & Bates, 1998), are time effective and economic. It was therefore decided to measure assessment by questionnaire methodology.

2.5.1 The Pictorial Assessment of Temperament (PAT; Clarke-Stewart, Fitzpatrick, Allhusen & Goldberg, 2000). (See Appendix 2)

The Pictorial Assessment of Temperament was selected. This is a 10-item measure of temperamental risk factors/difficult temperament which are rated by the child's primary caregiver. Recent information on the psychometric properties of the PAT have shown that the instrument has good validity and reliability (Clarke-Stewart et. al., 2000). In the PAT, 10 illustrated vignettes, each demonstrating how three different infants (an easy infant, a difficult infant, and an average or slow-to-warm-up infant) would react to routine daily occurrences are displayed both pictorially and in written format. This instrument takes approximately 2 minutes to complete and avoids the inherent problems in existing paper and pencil measures of temperament (e.g., complexity of response choices, dependence on respondents' educational level and verbal skills). For the purposes of the current study, the questions were modified to provide a retrospective assessment of the child's early temperamental characteristics. Parents were asked to select the "infant" that best described how their child reacted when he was a baby.

2.6 MIDDLE-CHILDHOOD EMOTIONAL FUNCTIONING AND MORAL AFFECT

A number of alternative methods for assessing children's emotion exist. For example, in laboratory settings children's facial, behavioural and physiological reactions to distressing stimuli have been used as markers of emotion (Blair, 1999). However, these methods often require sophisticated equipment to elicit and measure

responses. Furthermore, physiological measures may require physical contact with the child. Observational analysis has also been used to measure children's emotions. However, the disadvantage of using this type of assessment is the considerable time investment required to obtain data. Self-report ratings are an acceptable method of assessing emotion and proffer two main advantages. Firstly, they are quick and easy to administer and secondly they can provide a relatively differentiated measure of emotion. There are a number of assessments which have shown to be valid and reliable assessments of childhood emotion and this was the preferred method of assessing emotion in the current study.

2.6.1 EMOTIONAL FUNCTIONING: PRIMARY EMOTIONS

According to Mealey (1995) an individual can experience the "basic" or "primary" emotions without having experience of the "secondary" or "moral" emotions. It was therefore considered important to assess the child's overall emotional responsivity in relation to the basic emotions.

2.6.1.1 The Differential Emotion Scale as adapted for children and adolescents (DES-III; Kotsch, Gerbing, & Schwartz, 1982) (See Appendix 3)

The DES-III was used to measure the child's overall level and intensity of emotional functioning This measure has been shown to be a reliable and valid assessment of emotions in children above the age of 8 (Kotsch et. al., 1982). In the original DES-III, 30 adjectives (3 adjectives for each of the 10 fundamental emotions (i.e. interest, enjoyment, surprise, sadness, anger, disgust, contempt, fear,

shame/shyness, and guilt) are presented to the child and the child is asked to indicate the frequency with which they experience each of these items according to a 5 point-scale (never, hardly ever, sometimes, often, very often). For the purposes of this study 9 emotions were assessed to provide a measure of the child's emotional intensity i.e., interest, enjoyment, surprise, sadness, anger, disgust, contempt, fear, and shame/shyness. The items assessing guilt were not included in the total score and were used as an independent measure of affect (this will be discussed below). The child's total score on the 9 emotions was taken to represent their overall level and intensity of basic emotion.

2.6.2 EMPATHY

Deficits in empathic responsivity is considered a key trait in the literature pertaining to callous-unemotional traits in conduct problem children (Frick, 1994a) and adult psychopaths (Hare, 1991). Furthermore, empathy is a key moral emotion. It was therefore decided that children's empathic responsivity should be assessed.

2.6.2.1 The Index of Empathy for children and adolescents (Bryant, 1982). (See Appendix 4)

The Index of Empathy for children and adolescents (Bryant, 1982) was employed to measure each child's level of empathy. This is a 22 item self-report inventory of an empathic responsivity trait. Bryant (1982) reported the psychometric properties of this instrument and concluded that the measure demonstrated satisfactory reliability and validity. In the Index of Empathy for children and adolescents, the individual is

asked to consider whether each of the items describes them or not, or if they agree with the item or not, i.e., yes/no response. This instrument is easy to administer and can be completed in approximately 5 to 10 minutes.

2.6.3 GUILT

Guilt is considered to occupy a central role in the socialisation process and deficits in this emotion are considered a key feature of the conduct problem children with callous-unemotional traits (Frick et al., 1994) and adult psychopaths (Hare, 1990). It was therefore decided important to assess the childrens' level of guilt. Two measures of guilt were used.

2.6.3.1 Differential Emotions Scale as adapted for children and adolescents (DES-III, Kotsch et al 1982) (Appendix 3)

As described above, the three adjectives designed to specifically assess guilt on the Differential Emotions Scale for Children as adapted for children and adolescents were summed to provide an assessment of the child's experience of guilt.

2.6.3.2 The Test of Self-Conscious Affect for Children (TOSCA-C; Tangney unpublished) (See Appendix 5)

The Test of Self-Conscious Affect for Children (TOSCA-C; Tangney, unpublished) was also used to assess the child's level of guilt proneness. The TOSCA-C is a scenario-based paper and pencil measure of shame proneness, guilt proneness and pride in behaviour. It is appropriate for children ages 8 to 12. In this measure,

respondents are presented with a series of specific common day-to-day situations. The scenarios and items were based on 'subject-generated' as opposed to 'experimenter-generated' accounts of shame, guilt, and pride experiences in several hundred children. Respondents are asked to rate, on a 5 point scale, their likelihood of responding in each manner indicated. Guilt scales are composed of 15 items (10 in connection with negative events, 5 in connection with positive events). Tangney (1996) has argued that the TOSCA-C is a more valid assessment of the construct of guilt because other measures rely on respondents abilities to differentiate verbally between emotions, do not assess emotional reactions in specific contexts, and probably tap a combination of guilt and shame.

2.7 CALLOUS-UNEMOTIONAL TRAITS

The research literature pertaining to the The Psychopathy Screening Device (PSD; Frick & Hare, in press) is central to the arguments developed within the current study. It was therefore decided to include this instrument to enable an accurate assessment of children's callous-unemotional traits.

2.7.1 The Psychopathy Screening Device (PSD; Frick and Hare, in press) (See Appendix 6)

The PSD is a 20 item rating scale with parents and teacher report forms. The 20 items cover interpersonal, affective and behavioural characteristics of the child. Each item is scored either 0 = not at all true, 1= sometimes true, or 2 = definitely

true of the individual. For the purposes of this study, the three factor model was used to measure the child's callous-unemotional traits.

2.8 PARENTING PRACTICES

Parenting practices occupy a central role in etiological theories of conduct problems and of moral affect. It was therefore considered necessary to assess parenting practices that are known to predict both conduct problems and moral emotions to ensure a comprehensive assessment of parenting. There are several methods of assessing family functioning and parenting factors. Observational analysis have been commonly employed. However, this method is limited in that older children may react to being observed therefore invalidating the assessment (Keller, 1986). It is also difficult to set up situations that elicit parenting behaviours relevant to conduct problems and these assessments are costly and time consuming. Several standardized measures of parenting style are available however, these questionnaires are purported to assess the emotional climate within the home, rather than parenting practices per se. This distinction is important. Darling & Steinberg (1993) suggest that parenting style is best conceptualised as a context that moderates the influence of specific parenting practices on the child whereby parenting practices are behaviours defined by specific content and socialisation goals. It was decided that for the purposes of this study that questionnaire that assess parenting practices was the most appropriate method of assessment.

2.8.1 The Alabama Parenting Questionnaire (APQ, Frick, 1991) (See Appendix 7)

The Alabama Parenting Questionnaire (APQ; Frick, 1991) was developed to tap the most important aspects of parenting practices relevant to conduct problems and can be used with parents of children between the ages of 6 to 13 years. The APQ includes questions that cover the following 5 domains: parental involvement, positive parenting, poor monitoring/supervision, inconsistent discipline, corporal punishment, and other discipline practices. All items are rated on a 5-point frequency scale (1 = never to 5 = always) to represent the "typical" frequency with which these occur.

There are four different versions of the APQ including telephone interviews and questionnaires. Preliminary data concerning the psychometric properties of the APQ suggest that the parent completed questionnaire and the parent interview versions of the APQ differentiate between groups of parents of children with disruptive behaviour disorders primarily because of differential elevations on the three scales measuring negative parenting practices. The initial findings suggest that the two child versions may not be acceptable, at least with younger children (Shelton, Frick, & Wootton, 1996) and that there are difficulties with a response set bias on the telephone interview format. For the purposes of the present study it was therefore decided to administer only the parent questionnaire.

2.8.2 The Socialisation of Moral Affect for Parents of Children (SOMA-PC, Tangney, unpublished) (See Appendix 8)

The SOMA-PC is available for children aged between 7 and 13 years. This is a parenting measure that focuses on specific types of parenting practices that are theoretically relevant to the socialization of empathy, guilt and shame. The scale includes negative parenting practices (i.e., parenting practices negatively correlated with the moral emotions include: love withdrawal, power assertion (including corporal punishment); neglect/ignoring; public humiliation; conditional approval; and disgust/teasing/contempt), and positive parenting practices that are positively related to the moral emotions i.e: victim-focused induction (where the focus of the induction is on the feelings and consequences for the victim); parent-focused induction (where the focus of the induction is on the feelings and consequences for the parent); and teaching reparation behaviours). The SOMA-PC assesses parental behaviours in a scenario-based format which consists of 18 (8 positive and 10 negative) situations depicting the children's success, failure, and transgression behaviours, and subsequent parental responses.

2.9 VERBAL INTELLIGENCE

Intellectual deficits are known to predict antisocial behaviour problems in children. Such impairments may also confound an individuals ability to respond to assessments that require verbal skills. The assessment of verbal IQ was therefore considered essential to enable the exclusion of participants whose functioning was within the "learning disability" range due to the possibility that their behavioural

problems may have been the primary or secondary consequence of neurological impairment and to ensure that children had appropriate verbal skills to comprehend the items on the other measures.

2.9.1 The Wechsler Abbreviated Scale for Intelligence (WASI; Psychological Corporation)

The verbal sub-tests of the WASI were employed to assess each child's verbal IQ. The WASI is easy to administer and score and takes a maximum of 10 to 15 minutes. It is a standardized instrument with norms across ages 6 years to 89 years.

2.10 SUMMARY OF MEASURES

These assessments used in the current study are summarised in Table 2.1 below.

Table 2.1. Summary of measures used in current study

VARIABLE	MEASURE
Conduct Problems	Aggression and delinquency sub-scales of the CBCL
Temperament	The Pictorial Assessment of Temperament (PAT)
Emotionality	Differential Emotions Scale – III (DES-III)
Empathy	Index of Empathy
Guilt Experiences Guilt Proneness	Guilt Items on the DES-III Guilt-proneness sub-scale of TOSCA-C
Callous-Unemotional traits	The Psychopathy Screening Device (PSD)
Parenting Practices	The Alabama Parenting Questionnaire (APQ) Socialisation of Moral Affect – Parents of Children (SOMA-PC)
Verbal IQ	WASI vocabulary and similarities sub-tests

The child and parent instruments were combined to form a "child questionnaire" (i.e., the WASI sub-tests, DES-III, Index of Empathy and TOSCA-C) and a "parent questionnaire" (i.e., PAT, APQ, SOMA-PC, CBCL, and PSD).

2.11 PROCEDURE

Subsequent to ethical approval of the study, suitable participants were recruited. The recruitment of children with conduct problems involved several different procedures. First, the departmental waiting list was examined and children referred because of conduct problems were identified. Their parents were then contacted by the researcher who provided them with a Patient Invitation Sheet (Appendix 9).

Second, individual clinicians were asked to review their caseload and identify any children that would be suitable for the research study. A memo which briefly outlined the aims of the study and which detailed the inclusion criteria was circulated to all members of the department. The inclusion criteria were as follows: male; between ages 8 and 11 years; living at home with at least one biological parent; presents with symptoms of conduct problems not attributable to abuse/trauma or neurological insult. In suitable cases, the families were contacted by their clinician who asked if their name could be passed onto the researcher .The families who consented to this were then contacted by the researcher who provided them with a Patient Information sheet and invitation to take part in the study (Appendix 9).

Third, teachers at schools for children with emotional and behavioural problems were asked to identify children who were "hard to manage" and to send an information sheet and invitation to take part in the research study to the child's parents (Appendix 11).

Children in the control group were recruited on the basis of being identified by their class teacher as being "well-behaved". The class teacher provided the children with a letter addressed to their parents which detailed the study and invited them to take part (Appendix 12).

Families referred to the clinic were offered the opportunity to attend an appointment at the hospital clinic or a home visit for the purposes of being assessed. Thirteen families opted for a home visit which took an average of approximately 2 hours per visit (including travelling time). The researcher administered the child questionnaire to each participant whilst their mother completed the parent questionnaire. The teacher questionnaire was then sent to the school with a request for it to be returned to the researcher.

Children who were recruited from educational facilities (i.e. control and conduct problem children) were seen by the researcher at their school. The child questionnaire was administered by the researcher and each child was given their parent's questionnaire and asked to deliver it to their mother. All parents of children in the control group returned their questionnaires to the researcher via their child's class teacher. For those children in the conduct problem group, the researcher also telephoned the parents to offer assistance or clarification on any of the items included in the questionnaire. Two mothers requested assistance with the completion of the questionnaire and home visits were arranged which took approximately 1 hour each. The parents who declined this offer returned their questionnaire to the researcher via their child's teacher. The teacher questionnaires were distributed to, or sent to, class teachers following the child assessment. Finally, on receipt of the questionnaires, the data was checked for missing values. On a couple of occasions when this occurred, the rater was contacted by telephone

and asked to rate the items they had omitted to ensure that the data set was complete.

CHAPTER 3 RESULTS

3.0 OVERVIEW OF RESULTS SECTION

Following recommended procedures for handling and analysing data, the first phase of analyses involved exploratory and descriptive data analyses. In the second phase, statistical procedures were conducted to confirm the data characteristics (Kinnear & Gray, 1994). Independent t-tests were used to examine differences between the groups on the variables employed and correlational analyses were used to test the main hypotheses. Forward stepwise multiple regression analyses were also used to determine the predictive value of the variables studied. All data analyses was conducted using the Statistical Package for the Social Sciences version 10 (SPSS).

3.1 DEMOGRAPHIC CHARACTERISTICS

The whole sample of 44 children had a mean age of 9.6 years (range 8-11, SD = 1.0) and a mean verbal IQ of 101.8 (range 70 – 134, SD = 16.8). Thirty-two percent of the sample had been referred to child mental health services and 16% attended special educational establishments (i.e., conduct problem group). Fifty-two percent attended mainstream primary schools (i.e., non-conduct problem group). The mean age of the conduct problem group was 9.2 years (range 8 – 11, SD = 1.1) and this group had a mean verbal IQ of 90.5 (range 70 – 112). The non-conduct problem group had a mean age of 9.9 years (range 8 – 11, SD = 0.8) and a mean verbal IQ of 112.2 (range 86 – 134, SD = 13.3). The children in the conduct problem group were rated as having more aggressive conduct problems (mean = 28, SD =6.2) than controls (mean = 3.0, SD = 3.1) and more delinquent conduct problems (mean = 8.4, SD = 41) than controls (mean = 3.0, SD = 3.5).

3.2 QUESTIONNAIRE RESPONSE RATES

Parental questionnaires had a response rate of 97% whereas the return rate for teacher questionnaires was 86.4%. Due to the absence of teacher ratings for all participants, Pearson Product Moment correlations were calculated for parental and teacher ratings of children's total conduct problems (CBCL) and callous-unemotional traits (PSD). Parent and teacher ratings of total conduct problems (CBCL) were significantly correlated ($r = .79$, $p < .01$) and parental and teacher ratings of callous-unemotional traits (PSD) were also significantly correlated, (r =

.78, $p < .01$). It was therefore decided that parents data for conduct problem and callous-unemotional traits would used for the data analyses.

3.3 CORRELATION BETWEEN MEASURES

In the current study, several measures were used to assess children's levels of moral affect (callous-unemotional factor of PSD; Index of empathy; Guilt-experiences of DES-III, and Guilt-proneness items from TOSCA-C) and parenting practices (APQ and SOMA-PC). It was therefore considered appropriate to examine the correlations between these assessments to determine whether significantly correlated measures could be aggregated.

3.3.1 Moral affect

To determine whether the measures of moral affect differed from the measure of primary emotions which are thought to be universally experienced, the correlations between the DES-III and parental ratings on children's callous-unemotional traits and children's self-reported empathy and guilt were examined. Overall emotionality showed a significant correlation with the guilt-experiences measure ($r = .46$, $p <. 01$) but was not significantly related with any of the other measures of moral affect. It was therefore accepted that the measures of moral affect were measuring more complex emotions that the primary emotions considered to be universally experienced.

To determine whether the measures of moral affect were tapping the same construct the correlations between the parental and children's self-report instruments were examined. The callous-unemotional traits dimension of the PSD was negatively correlated with the children's self-reported empathy ($r = -.33$, $p < .05$) and showed a negative, but non-significant relationship with guilt-proneness ($r = -.22$, $p > .05$). However, there was a positive relationship between the callous-unemotional scale and childrens' self-reported guilt-experiences ($r = .11$, $p > .05$). Due to the lack of significant correlations between all the measures, the decision was made not to aggregate these indices of moral affect for the confirmatory data analyses.

3.3.2 Parenting

The negative parenting dimensions of the APQ and SOMA-PC were positively correlated ($r = .60$, $p < .05$) but the positive parenting dimensions of the APQ and SOMA-PC were not significantly correlated ($r = .21$, $p > .05$). Furthermore, the positive parenting dimension of the SOMA-PC was significantly correlated with the negative parenting dimension on the APQ ($r = .55$, $p < .05$). Due to the complex pattern of relationships between these measures it was considered appropriate to keep these indices of parenting separate for the confirmatory analyses.

3.4 EXPLORATORY DATA ANALYSES

The exploratory data analyses phase involved data checking whereby missing values and errors in data entry were remediated by comparing the information on the data files with hard copies. The data was also examined to detect the presence of any

unusual features and outliers. Graphical analysis revealed that there were no outliers in scores for parental reports of children's total conduct problems in either the whole sample, or either group.

3.5 DESCRIPTIVE STATISTICS

Descriptive statistics are presented in Table 3.1, p. 83. As indicated, the mean scores for several variables were different between groups. It was also evident that there were relatively large standard deviations and a considerable range in scores for several variables.

3.6 SUMMARY

Initial exploratory data analyses revealed that there were no unusual characteristics in children's scores on total conduct problems (CBCL) in both groups. Furthermore, the descriptive statistics indicated that there was a range of scores on the variables assessed in this study.

Table 3.1 Descriptive statistics

VARIABLE	Total Sample, (N = 44)				Conduct Problem Group, (N = 21)				Control Group, (N = 23)			
	Mean	Median	SD	Range	Mean	Median	SD	Range	Mean	Median	SD	Range
Age	9.6	10.0	1.0	8-11	9.2	9.0	1.1	8-11	9.9	10.0	.8	9-11
Verbal IQ (WASI)	101.8	102.5	16.8	70-134	90.5	92.0	12.3	70-112	112.2	110.0	13.3	86-134
Conduct Problems (CBCL)	19.3	10.0	17.9	0-50	36.3	40.0	9.8	19-50	3.8	3.0	3.5	0-10
Aggression (CBCL)	15.1	9.0	13.4	0-37	28.0	30.0	6.2	15-30	3.3	3.0	3.1	0-9
Delinquency (CBCL)	4.3	1.5	4.9	0-15	8.4	9.0	4.1	1-15	0.5	0.0	0.7	0-2
Difficult Temperament (PAT)	19.1	19.0	4.6	12-28	21.4	21.0	3.9	15-28	16.9	15.0	4.2	12-25
Emotionality (DES-III)	54.0	53.0	11.8	31-85	56.5	56.0	14.3	33-85	51.8	53.0	8.7	31-65
Total moral affect[2]	1.8	1.8	.31	1.2-2.6	1.8	1.8	.36	1.2-2.6	1.8	1.7	2.5	1.3-2.4
Empathy (Index of Empathy)	11.7	12.0	3.1	4-18	10.5	11.0	2.5	4-15	12.8	13.0	3.2	6-18
Guilt Experiences (guilt items,DES-III)	6.6	6.0	2.2	3-12	7.4	8.0	2.5	3-12	5.8	6.0	1.7	3-10
Guilt Proneness (TOSCA-C)	54.5	54.0	10.0	33-74	53.2	51.5	11.0	33-74	55.6	56.0	9.3	34-70
Psychopathic Traits (PSD)	14.3	14.0	9.8	0-33	23.2	22.0	5.3	14-33	6.2	7.0	4.1	0-14
Narcissism (Narc:PSD).	3.8	3.0	3.3	0-12	6.4	6.0	2.5	2-12	1.4	1.0	1.7	0-5
Callous-Unemotional Traits (CU:PSD)	4.6	4.0	3.1	0-11	6.9	7.0	2.6	2-11	2.6	2.0	1.8	0-7
Impulsive Conduct Problems(ICP:PSD)	5.1	4.5	3.4	0-10	8.3	8.0	1.3	5-10	2.2	2.0	1.7	0-6
Positive Parenting (APQ)	64.1	63.5	8.2	44-77	62.5	62.0	10.3	44-77	65.6	66.0	5.4	56-74
Negative Parenting (APQ)	35.8	36.0	9.4	20-53	41.7	42.0	8.9	22-53	30.4	29.0	6.1	20-40
Positive Parenting (SOMA-PC)	153.3	154.0	19.0	93-190	158.8	158.0	17.2	130-190	148.3	149.0	19.6	93-176
Negative Parenting (SOMA-PC)	94.6	91.5	23.8	51-146	111.8	107.0	18.0	85-146	78.9	80.0	16.4	51-114

[2] Based on weighted sum of scores on children self report on the guilt experiences items of DES-III, empathy (Index of Empathy) and guilt proneness(TOSCA-C)

3.7 CONFIRMATORY DATA ANALYSES: PARAMETRIC TESTS

Parametric tests were used to examine group differences (Independent T-Test)[3] and the relationships between the variables (Pearson Product Moment Correlation). Underlying the use of these procedures are several assumptions that require to be met, i.e. scores are measured on an interval scale, scores are normally distributed and there is homogeneity of variance. There was no evidence that the data violated these assumptions. In addition to the parametric analyses, a post-hoc power analyses was also carried out when the observed results were significant only at the $p < .05$ level (thus being vulnerable to a type one error), or were in the predicted direction but non-significant. Proposed sample sizes for a statistically significant result at the $p < .01$ level are therefore stated throughout[4].

3.7.1 HYPOTHESIS 1: Children in the conduct problem group will have higher scores on difficult temperament, negative parenting and parental ratings of low moral affect (i.e. callous-unemotional traits) and lower scores on self-reported moral affect and positive parenting.

In relation to the first hypothesis, the results shown on Table 3.2, p 86 revealed that children with conduct problems were rated significantly higher on measures of

[3] Levene's Test showed that all variances except children's self report of overall emotionality, guilt experiences, parental reports of conduct problems and the positive parenting dimension of the APQ had equal variances. However, although t-tests assume a normal distribution, this procedure is robust for large departures especially at the .05 and .01 level (Steel, Torrie & Dickie, 1997) and it has been reported that parametric tests are reasonably robust as far as these criteria are concerned (Robson, 1990). Furthermore, homogeneity of variance is not considered important as long as there are equal number of participants in each experimental condition (Greene & D'Oliveria, 1982). It was therefore considered appropriate to proceed with the independent t-test to analyse group differences.

[4] The decision to conduct a post-hoc power analysis was based on several issues pertaining to the relevant literature. To the writers knowledge, the dimensions of temperament, moral affect and parenting practices have not been examined simultaneously in conduct problem children and researchers have criticized previous attempts to calculate effect sizes in relation to child and parenting factors and conduct problems. For example, Lytton (1990) argued that such an exercise is meaningless due to the diversity of methodologies and approaches used to research the relationships between child, parenting and conduct problems. Given that this study was designed to address a new field of study in relation to conduct problems, and that several of the instruments used are unpublished, it seemed more appropriate to do power analysis at this stage..

difficult temperament (t = 3.6, *df* 42, p < .001); negative parenting on the APQ (t = 4.9, *df 42* p < .01) and SOMA-PC (t = 6.4, *df 42,* p <.01*)* and on callous-unemotional traits (t = 6.6, *df 42,* .001*)* than children in the control group. Children with conduct problems were also shown to have significantly lower self-report ratings of empathic responsivity (t = -2.6, *df 42,* p .05*)* but rated themselves as having a significantly higher frequency of guilt-experiences (t = 2.4, *df 42,* p < .05*)*. Group differences between empathy and guilt-experiences were significant at the p < .05 level, to show significance at the p < .01 level a sample size of 50, (25 in each group) would be necessary for empathy and a sample size of 60 (30 in each group) would be required for guilt-experiences. There were no significant differences between the two groups on guilt proneness or positive parenting.

These results confirm many of the predicted relationship in hypothesis one. Children with conduct problems were rated as having a more difficult temperament in infancy, having lower levels of moral affect (i.e., callous-unemotional traits, and low empathy) in middle childhood, and as experiencing a higher rate of negative parenting practices. However, the results did not support the hypothesis that children with conduct problems would have significantly lower levels of guilt and there was no evidence that they experienced lower rates of positive parenting.

Table 3.2 Differences between group means

VARIABLE	GROUP		t
	Conduct Problem N = 21 MEAN	**Control N = 23 MEAN**	
Age	9.2	9.9	**2.4***
Verbal IQ (WASI)	90.5	112.2	**5.6*****
Conduct Problems (CBCL)	36.3	3.8	**14.9*****
Aggression (CBCL)	28.0	0.5	**17.0****
Delinquency (CBCL)	8.4	3.3	**9.1****
Difficult Temperament (PAT)	21.4	17.0	**3.6*****
Emotionality (DES-III)	56.5	51.8	1.3
Total moral affect	1.8	1.7	.05
Empathy (Index of Empathy)	10.5	12.8	**2.6***
Guilt Experiences (guilt items, DES-III)	7.4	5.8	**2.4***
Guilt Proneness (TOSCA-C)	53.2	55.6	.76
Psychopathic Traits (PSD)	23.2	6.2	**12.1*****
Narcissism (Narc: PSD)	6.4	1.4	**7.9*****
Callous Unemotional Traits (CU: PSD)	6.9	2.6	**6.6*****
Impulsive Conduct Problems (ICP: PSD)	8.3	2.2	**13.2*****
Positive Parenting (APQ)	62.5	65.6	1.3
Negative Parenting (APQ)	41.7	30.4	**4.9****
Positive Parenting (SOMA-PC)	158.8	148.3	1.9
Negative Parenting (SOMA-PC)	111.8	78.9	**6.4****

df = 42; *significant at the $p < .05$ level, one-tailed test; **significant at the $p < .01$ level, two-tailed test; ***, significant at the $p < .001$ level, two-tailed test.

3.7.2 HYPOTHESIS 2(a): Difficult temperament, parental reports of low moral affect (i.e., callous-unemotional traits) and negative parenting will be positively correlated with children's aggressive and delinquent conduct problems.

Difficult temperament was significantly correlated with aggressive ($r = .48$, $p < .01$) and delinquent conduct problems, ($r = .39$, $p < .01$). Parental reports of low moral affect (i.e., callous-unemotional traits) also showed a significant correlation with both aggressive ($r = .73$, $p < .01$) and delinquent conduct problems ($r = .72$, $p < .01$). Negative parenting as measured by the APQ was significantly correlated with aggressive ($r = .63$, $p < .01$) and delinquent conduct problems ($r = .63$, $p < .01$) and negative parenting as measured by the SOMA-PC was positively correlated with both aggressive ($r = .73$, $p < .01$) and delinquent ($r = .70$, $p < .01$) conduct problems.

3.7.2.1 HYPOTHESIS 2(b): Children's self-reported moral affect and positive parenting will be negatively correlated with childhood conduct problems

The measures of childrens' self-reported moral affect showed a complex pattern of associations with childhood conduct problems (see Table 3.3., p. 92). Childrens' reports of empathy were negatively correlated with aggressive ($r = -.32$, $p < .05$), but not with delinquent ($r = -.22$, $p > .05$) conduct problems. According to a power analysis, a sample size of 60 would be necessary for the correlation between empathy and aggressive conduct problems to be considered significant at the $p < .01$ level and a sample size of 120 would be necessary for the correlation between

empathy and delinquency to be considered significant. Children's ratings of guilt experiences showed a positive correlation with aggressive ($r = .33$, $p < .05$) and delinquent ($r = .33$, $p < .05$) conduct problems. A sample size of 120 would be required for these relationships to be considered significant at the $p < .01$ level. Children's guilt-proneness was not related to conduct problems.

Positive parenting as measured by the APQ was not related to conduct problems. However, the results were in the predicted direction, (i.e., $r = -.25$, $p > .05$) for aggressive and $r = -.21$, $p > .05$, for delinquent conduct problems). A sample size of approximately 100 to 140 would be necessary for these results to be considered significant at the $p < .01$ level. However, the positive parenting dimension of the SOMA-PC showed a significant, but, positive relationship with aggressive conduct problems ($r = .27$, $p < .05$) but was not related to delinquent conduct problems.

In summary, the above findings suggest that, difficult temperament, parental reports of low moral affect (callous-unemotional traits), negative parenting, and lower levels of empathy, are significantly related to childhood conduct problems. However, in contrast to the predictions made, children's self-reported guilt-proneness is not related to conduct problems and the children in the conduct problem group reported more guilt experiences. The findings in relation to positive parenting were complex. On the basis of the APQ the direction of the relationship was in the predicted direction, but the results were not significant, however the

positive parenting dimension of the SOMA-PC was positively correlated with aggressive conduct problems.

3.7.3 HYPOTHESIS 3: Difficult temperament will be positively correlated to parental reports of negative parenting practices and negatively correlated with positive parenting practices.

In relation to hypothesis three, it can be seen from Table 3.3. p. 92 that difficult temperament was positively correlated with parental reports of negative parenting on the SOMA-PC ($r = .33$, $p < .05$). A sample of 50 would be sufficient for this result to be considered significant at the $p < .01$ level. Difficult temperament was not related to the negative parenting dimension of the APQ, but the results were in the predicted direction. A sample size of 140 would be necessary for this result to be considered significant at the $p < .01$ level. Difficult temperament was not related to parental reports of positive parenting. These results provide partial support for the hypothesis that difficult temperament will be related to negative parenting, but support the null hypothesis in relation to positive parenting.

3.7.4 HYPOTHESIS 4: Parental reports of difficult temperament will be positively related to parental ratings of children's low moral affect (i.e., callous-unemotional traits) and negatively related to children's self-reported moral affect.

The results provided partial support for the above hypothesis. As shown on Table 3.3, p. 92, difficult temperament was significantly correlated with parental reports of

low moral affect/callous-unemotional traits ($r = .41$, $p < .01$) and with children's reports of guilt experiences ($r = .29$, $p < .05$). A sample size of 80 would increase the significance if the observed relationship between guilt experiences and temperament to the $p < .01$ level. There were however, no significant relationships between difficult temperament and children's scores on empathy or guilt proneness.

3.7.5 HYPOTHESIS 5: Parental reports of negative parenting will be positively correlated with parental reports of children's low moral affect (i.e. callous-unemotional traits) and negatively correlated with children's self-reported moral affect.

In relation to hypothesis five, as shown on Table 3.3., p. 92, the negative parenting dimension of the APQ was correlated to parental reports of low moral affect (i.e. callous-unemotional traits) ($r = .54$, $p < .01$) as was the negative parenting dimension of the SOMA-PC ($r = .58$, $p < .01$). There was also a significant correlation between negative parenting on the SOMA-PC and children's self-reported guilt experiences ($r = .33$, $p < .05$): an increase in sample size to 50 would increase the significance of this result to $p < .01$ level. No other significant relationships were reported for negative parenting and children's self reported moral affect, however the results showed that the relationship between empathy and negative parenting was in the predicted direction. An increase in sample size to 120 would be required for this relationship to be considered significant at the $p < .01$ level.

In summary, the results partially supported hypothesis 5 and indicated that negative parenting was related to parental reports of children's low moral affect and children's own self-reported guilt experiences.

3.7.6 HYPOTHESIS 6: Parental reports of positive parenting will be negatively correlated with parental reports of children's low moral affect (i.e., callous-unemotional traits) and positively correlated with children's self-reported moral affect.

As shown on Table 3.3, p. 92, positive parenting practices as assessed by the SOMA-PC showed a significant correlation with childrens' self-report of guilt experiences ($r = .26$, $p < .05$) and guilt proneness ($r = .30$, $p < .05$). A sample size of 60 would be required for the relationship between guilt-experiences to be considered significant at the $p < .01$ level and a sample size of 100 for guilt-proneness.

There were no significant correlations between positive parenting and parental reports of children's low moral affect (i.e callous-unemotional traits) or children's self-reports of empathy. However the relationship between parental reports of low moral affect and positive parenting was in the predicted direction. A sample size of 170 would be necessary for this result to be considered significant at the $p < .01$ level.

Table 3.3. Correlation matrix for all variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.Age	----																		
2.Verbal IQ (WASI)	-.11	----																	
3.Conduct Prob. (CBCL)	-.27*	**-.52****	---																
4.Aggression (CBCL)	**-.28***	**-.53****	**.99****	---															
5.Delinquency (CBCL)	-.21	**-.48****	**.96****	**.92****	---														
6.Diff. Temp. (PAT)	**-.34***	-.37*	**.46****	**.48****	**.39****	---													
7.Emotionality (DES-III)	**-.32***	-.16	.19	.19	.16	.23	---												
8.Tot. moral affect	-.17	-.03	-.12	-.14	-.07	.03	.28	--											
9.Empathy (Ind. of Emp)	.01	**.35***	**-.30***	**-.32***	-.22	-.06	-.02	**.65****	---										
10.Guilt (DES-III)	-.10	**-.37****	**.34***	**.33***	**.33***	.29*	**.46****	**.68****	.04	---									
11.Guilt-Proneness, (TOSCA-C)	-.27*	.07	-.13	-.15	-.09	-.01	.25	**.69****	**.41****	.13	---								
12.Psychopathic Traits (PSD)	**-.31***	-.55**	**.93****	**.93****	**.87****	**.46****	.16	.07	**-.36****	.25	-.14	---							
13.Narcissism (Narc:PSD)	-.22	-.42**	**.87****	**.86****	**.83****	**.38***	.19	.02	**-.30***	.29*	-.06	**.92****	---						
14.Call Unem Traits (CU::PSD)	**-.33***	-.49**	**.74****	**.73****	**.71****	**.41****	.09	.18	**-.33****	.11	-.22	**.88****	**.71****	---					
15.Impul Cond Prob (ICP:PSD)	-..25	-.58**	**.90****	**.92****	**.78****	**.47****	.15	.06	**-.-38****	.26*	-.12	**.90****	**.80****	**.68****	---				
16.Positive Parentng (APQ)	-.00	.21	.24	-.25	-.21	-.04	-.08	.15	.12	-.01	.24	-.22	-.21	-.18	-.19	---			
17.Negative Parenting (APQ)	-.19	**-.41****	**.64****	**.63****	**.63****	.20	.21	-.12	-.22	.14	-.23	**.62****	**.55***	**.54****	**.58****	.24	---		
18.Positive Par (SOMA-PC)	-.12	-.18	.27*	.27*	.23	.25	.10	.29*	.04	.26*	**.30***	.29*	**.33***	.15	**.36****	.21	.05	---	
19.Negative Pa (SOMA-PC)	-.24	**-.48****	**.74****	**.73****	**.70****	**.33***	.25	.08	-.21	**.33***	-.07	**.75****	**.77***	**.58****	**.68****	-.26*	**.60****	**.55****	---

N = 44, * $p < .05$, ** $p < .01$, 1 tailed significance test.

3.8 MULTIPLE REGRESSION ANALYSES

As shown in the above analyses there was a complex pattern of relationships between temperament, moral affect, and parenting in relation to conduct problems. An additional exploratory aim therefore involved an examination of the predictive value of the study variables in relation to conduct problems and each other. An appropriate method of identifying predictor variables is to conduct a multiple regression analysis[5] . In multiple regression analysis, the presence of an association between variables is used to predict the values of another (criterion) from two or more other variables (predictors). For the purposes of the current study, a forward selection stepwise multiple regression was selected as an acceptable procedure. Stepwise multiple regression procedure has been described as a:

> method of selecting variables for inclusion in the regression model that starts by selecting the best predictor of the dependent variable. Additional independent variables are selected in terms of the incremental explanatory power they can add to the regression model. Independent variables are added as long as their partial correlation co-efficients are statistically significant. Independent variables may also be dropped if their predictive power drops to a non-significant level when another independent variable is added to the model. (Hair, Anderson, Tatham & Black 1998, p.147)

While recognising and accepting that, in stepwise multiple regression analysis, the desired sample size is recommended to be approximately 50 observations to 1 independent variable, it has been stated that it is acceptable to conduct stepwise procedures with smaller samples as long as the results are validated (Hair, et. al., 1998). However, given that this data analyses was exploratory in nature and that it would be considered in relation to the preceding confirmatory analyses it was considered appropriate to proceed with stepwise regression.

For the purposes of conducting the regression analysis, both the conduct problem and control group were included (N=44). This produced a heterogeneous group with a larger range of scores for conduct problems. Sampling at both ends of a range is the most efficient procedure for conducting regression analysis (Steel, Torrie & Dickey, 1997). Regression diagnostic procedures were conducted using SPSS to ensure that the assumptions underlying multiple regression (linearity, constant variance, independence and normality) were not substantially violated (Hair, et al., 1998).

The main aim of the regression analyses was to identify the best predictor variables of conduct problems, low moral affect, and negative parenting practices. Two considerations affected the selection of predictor variables. Firstly, the likely temporal sequencing of the risk factors and secondly, multi-collinearity[6]. Additional regression equations for all the measures can be found in Appendix 13.

3.8.1 AGGRESSIVE AND DELINQUENT CONDUCT PROBLEMS

In relation to predicting aggressive conduct problems, it can be seen from Table 3.4, p. 95, that parental reports of low moral affect (i.e., callous-unemotional traits) emerged at the first step i.e. $R^2 = .54$, ($F(1,42) = 48.46$, $p < .01$) and the negative parenting practices dimension of the SOMA-PC emerged at the second step, $R^2 = .68$, ($F(2,41) = 43.50$, $p < .01$).

---

[5] Structural Equation Modelling can also be used to examine relationships between variables when an independent variable becomes in independent variable in subsequent relationships. However, a sample size of at least 200 is required for this procedure, thus it is unsuitable for the purposes of this analyses (Hair , Anderson, Tatham & Black, 1998)

[6] In instances where correlations were approximately r = .80 or above, multicollinearity was indicated, therefore the regression analysis was run with these variables excluded (Brymen & Cramer, 1997).

Table 3.4 Regression Analysis for Aggressive Conduct Problems

AGGRESSIVE CONDUCT PROBLEMS

Step	Variables	B	SE B	Beta	T	Sig T
1	(Constant)	.339	2.528		.134	.894
	PSD: CU dimension	3.172	.456	.732	6.962	.000
2	Constant	-18.934	4.967		-3.812	.000
	PSD: CU dimension	2.2023	.467	.467	4.329	.000
	SOMA-PC Negative Parenting	.260	.061	.463	4.292	.000

Multiple R = .82
R^2 = .68
Adjusted R^2 = .66

VARIABLES ENTERED INTO EQUATION: Age; Verbal IQ (WASI); Parental reports of children's difficult temperament (PAT); Children's self report of overall emotionality (DES-III); Children's self report of empathy (Index of Empathy); Children's self report of guilt experiences (guilt items on DES-III); Children's self report of guilt proneness (TOSCA-C); Parental reports of children's moral affect (CU traits on PSD); Negative parenting practices (APQ and SOMA-PC); Positive parenting practices (APQ and SOMA-PC).

The same analysis was also run in order to identify the most important variables related to parental reports of delinquent conduct problems. As shown on Table 3.5, p. 96 the results indicated that once again, parental reports of children's low moral affect (i.e., callous-unemotional traits) emerged at step one R^2 = .49, $F(1,42)$ = 41.64, $p < .01$) and the negative parenting dimension of the SOMA-PC emerged at step two, R^2 = .63, $F(2,41) = 34.69$, $p < .01$).

Table 3.5 Regression Analysis for Delinquent Conduct Problems

DELINQUENT CONDUCT PROBLEMS

Step	Variables	B	SE B	Beta	T	Sig T
1	(Constant)	-.952	.965		-.987	.329
	PSD: CU dimension	1.122	.174	.706	6.453	.000
2	(Constant)	-7.692	1.963		-3.919	.000
	PSD: CU dimension	.720	.185	.453	3.900	.000
	SOMA-PC Negative Parenting	9.093E-02	.024	.441	3.799	.000

Multiple R = .79
R^2 = .63
Adjusted R^2 = .61

VARIABLES ENTERED INTO EQUATION: Age; Verbal IQ (WASI); Parental reports of children's difficult temperament (PAT); Children's self report of overall emotionality (DES-III); Children's self report of empathy (Index of Empathy); Children's self report of guilt experiences (guilt items on DES-III); Children's self report of guilt proneness (TOSCA-C); Parental reports of children's moral affect (CU traits on PSD); Negative parenting practices (APQ and SOMA-PC); Positive parenting practices (APQ and SOMA-PC).

In summary, the results indicated that parental reports of low moral affect (i.e. callous-unemotional traits) and parental reports of negative parenting practices as measured by the SOMA-PC predicted aggressive and delinquent conduct problems.

Prior to moving on to consider which of the variables best predict parental reports of low moral affect (i.e. callous-unemotional traits) and negative parenting, it was decided that given the high correlation between parental reports of low moral affect (i.e. callous-unemotional traits) and parental reports of conduct problems that it would be of interest to conduct the same analysis with parental repots of low moral affect (i.e. callous-unemotional traits) excluded. As shown on Table 3.6., p. 97 the results revealed that negative parenting practices as measured by the SOMA-PC emerged at step one R^2 = .53, ($F(1,42) = 47.99$, $p < .000$), difficult temperament emerged as step two, R^2 = .59, ($F(2,41) = 30.32$, $p < .000$) and negative parenting

practices emerged at step three, R^2 = .65 (F(3,40) = 25.05, p < .000), to predict aggressive conduct problems.

Table 3.6 Regression analysis for aggressive conduct problems (excluding CU traits)

AGGRESSIVE CONDUCT PROBLEMS (EXCLUDING CU DIMENSION)

Step	Variables	B	SE B	Beta	T	Sig T
1	(Constant)	-23.766	5.773		-4.117	.000
	SOMA-PC Negative Parenting	.410	.059	.730	6.927	.000
2	(Constant)	-33.730	6.722		-5.018	.000
	SOMA-PC Negative Parenting	.362	.059	.644	6.126	.000.
	Difficult temperament	.764	.303	.265	2.520	.016
3	(Constant)	-39.285	6.674		-5.886	.000
	SOMA-PC Negative Parenting	.261	.068	.465	3.840	.000
	Difficult Temperament	.760	.285	.263	2.671	.011
	APQ Negative Parenting	.423	.166	.298	2.556	.014

Multiple R = .81
R^2 = .65
Adjusted R^2 = .63

VARIABLES ENTERED INTO EQUATION: Age; Verbal IQ (WASI); Parental reports of children's difficult temperament (PAT); Children's self report of overall emotionality (DES-III); Children's self report of empathy (Index of Empathy); Children's self report of guilt experiences (guilt items on DES-III); Children's self report of guilt proneness (TOSCA-C); Negative parenting practices (APQ and SOMA-PC); Positive parenting practices (APQ and SOMA-PC).

In relation to delinquency conduct problems, negative parenting practices as measured by the SOMA-PC emerged at step one, R^2 = .49 F(1,42) = 40.48, p<.000 and negative parenting practices as assessed by the APQ emerged at step two, R^2 = .55, F(2,41) = 25.70, p < .000, (see Table 3.7, p. 98)

Table 3.7 Regression analysis for delinquency conduct problems (excluding CU traits)

DELINQUENCY CONDUCT PROBLEMS (EXCLUDING CU DIMENSION)						
Step	**Variables**	**B**	**SE B**	**Beta**	**T**	**Sig T**
1	(Constant)	-9.413	2.213		-4.254	.000
	SOMA-PC Negative Parenting	.144	.023	.701	6.362	.000
2	(Constant)	-11.624	2.275		-5.109	.000
	SOMA-PC Negative Parenting	.105	.027	.508	3.896	.000
	APQ Negative Parenting	.167	.068	.321	2.461	.018

Multiple R = .75
R^2 = .56
Adjusted R^2 = .54

VARIABLES ENTERED INTO EQUATION: Age; Verbal IQ (WASI); Parental reports of children's difficult temperament (PAT); Children's self report of overall emotionality (DES-III); Children's self report of empathy (Index of Empathy); Children's self report of guilt experiences (guilt items on DES-III); Children's self report of guilt proneness (TOSCA-C); Negative parenting practices (APQ and SOMA-PC); Positive parenting practices (APQ and SOMA-PC).

In summary, negative parenting consistently emerged when the callous-unemotional traits dimension was excluded from the regression analyses it was shown that negative parenting was the most important predictor of childhood conduct problems. However, difficult temperament also emerged in the regression equation for aggressive conduct problems.

3.8.2 PARENTAL REPORTS OF CHILDREN'S LOW MORAL AFFECT (I.E. CALLOUS-UNEMOTIONAL TRAITS)

Although both parent and children's reports of moral affect were included in this study, only the parental reports of children's low moral affect (i.e., callous-unemotional traits) emerged in the regression analysis for conduct problems, therefore this variable was subject to additional data analysis whereby the best predictors of this variable were identified.

As shown on Table 3.8, p. 99, a stepwise multiple regression of parental reports of children's low moral affect (i.e., callous-unemotional traits) showed that the negative parenting practices dimension of the SOMA-PC was the best predictor which emerged at step 1, $R^2 = .33$, ($F(1,42) = 20.5$, $p < .000$). No other variables emerged in this equation.

Table 3.8 Regression analysis for parental reports of children's moral affect /callous-unemotional traits

PARENTAL REPORTS OF MORAL AFFECT (CU FACTOR OF PSD)						
Step	**Variables**	**B**	**SE B**	**Beta**	**T**	**Sig T**
1	(Constant)	-2.389	1.598		-1.494	.143
	Negative Parenting SOMA-PC	7.425E-02	.016	.573	4.529	.000
	$R = .57$ $R^2 = .33$ Adjusted $R^2 = .31$					

VARIABLES ENTERED INTO THE EQUATION: Age, Verbal IQ, Difficult Temperament (PAT), overall emotionality (DES-III), APQ positive parenting, APQ negative parenting, SOMA-PC positive parenting and SOMA-PC negative parenting.

3.8.3 NEGATIVE PARENTING

Both the APQ and SOMA-PC negative parenting dimensions emerged in the regression analyses for conduct problems and the negative parenting dimension of the SOMA-PC emerged in the regression equation for callous-unemotional traits. It was therefore considered important to conduct a regression analyses for each of these parenting dimensions.

3.8.3.1 APQ: Negative Parenting Practices

As shown on Table 3.9, p. 100 the results revealed that parental reports of children's low moral affect/callous-unemotional traits emerged at step one, and predicted 29 percent of the explained variance of negative parenting, $R^2 = .29$, ($F(1.42) = 16.97$, $p < .000$). No other variables emerged in this equation.

Table 3.9 Regression Analysis for Negative Parenting (CU traits included)

APQ NEGATIVE PARENTING WITH PARENTAL REPORTS OF MORAL AFFECT CU:PSD						
Step	**Variable**	**B**	**SE B**	**Beta**	**T**	**Sig T**
1	(Constant)	28.200	2.206		12.782	.000
	CU dimension of PSD	1.638	.398	.536	4.119	.000
	R = .54 R^2 = .29 Adjusted R^2 = .27					
VARIABLES INCLUDED IN THE EQUATION: Parental reports of children's early temperament, children's self-report of moral affect, age, verbal IQ and children's self-report of overall emotionality.						

Because the presence of conduct problems is thought to reinforce and exacerbate negative parenting, a regression analysis was conducted to determine whether conduct problems predicted parenting. As shown on Table 3.10, p 101 when

parental reports of children's aggressive and delinquent conduct problems were also entered into the equation, stepwise multiple regression analysis revealed that parental reports of aggressive conduct problems emerged at step one, R^2 = .39, (F(1,42) = 27.77, p < .000). No other variables emerged as significant.

Table 3.11 Regression analysis for Negative Parenting (including conduct problems)

APQ NEGATIVE PARENTING WITH CONDUCT PROBLEMS						
Step	**Variable**	**B**	**SE B**	**Beta**	**T**	**Sig T**
1	(Constant)	29.106	1.689		17.237	.000
	Aggressive conduct problems	.445	.084	.631	5.270	.000
	$R = .63$ $R^2 = .40$ Adjusted $R^2 = .38$					
VARIABLES ENTERED INTO THE EQUATION: Parental reports of children's early temperament, children's self-report of moral affect, age, verbal IQ and children's self-report of overall emotionality.						

3.8.3.2 SOMA-PC Negative Parenting

In relation to the negative parenting dimension on the SOMA-PC a similar pattern of results emerged. As shown on Table 3.11, p. 102 the results revealed that parental reports of moral affect (i.e, callous-unemotional traits), emerged at step one, R^2 = .33, (F(1.42) = 20.51, p <.000) but children's reports of guilt experiences also emerged at step two, R^2 = .40, (F(2,41) = 13.66, p < .000).

Table 3.11 Regression analysis for Negative Parenting (SOMA-PC); CU traits included.

SOMA-PC: NEGATIVE PARENTING						
Step	**Variable**	**B**	**SE B**	**Beta**	**T**	**Sig T**
1	(Constant)	74.125	5.413		13.694	.000
	CU of PSD	4.419	.976	.573	4.529	.000
	(Constant)	56.408	9.533		5.917	.000
	CU of PSD	4.202	.939	.545	4.477	.000
	Guilt	2.851	1.288	.269	2.214	.032
	Multiple R = .63 R^2 - .40 Adjusted R^2 = .37					

VARIABLES ENTERED INTO THE EQUATION: Parental reports of children's early temperament, children's self-report of moral affect, age, verbal IQ and children's self-report of overall emotionality.

As can be seen from Table 3.12, p.102 with conduct problems entered into the equation, parental reports of aggressive conduct problems emerged at step one, R^2 = .53, ($F(1,42) = 47.99$, $p < .000$). No other variables emerged as significant.

Table 3.12 Regression analysis for negative parenting (SOMA-PC) conduct problems included

SOMA-PC: NEGATIVE PARENTING						
Step	**Variable**	**B**	**SE B**	**Beta**	**T**	**Sig T**
1	(Constant)	75.054	3.756		19.982	.000
	Aggressive CP	1.300	.188	.730	6.927	.000
	R = .73 R^2 = .53 Adjusted R^2 = .52					

VARIABLES ENTERED INTO THE EQUATION: Parental reports of children's early temperament, children's self-report of moral affect, age, verbal IQ and children's self-report of overall emotionality.

CHAPTER 4 DISCUSSION

4.0 OVERVIEW OF DISCUSSION

The questions investigated in this study began to address the complex questions regarding the role of temperament, moral affect and parenting in relation to childhood conduct problems. In the following section, the results will be discussed in relation to the research questions and hypotheses formulated in the introductory chapter. In addition, the implications of the results in relation to understanding and managing children with conduct problems will also be described. In order to present a balanced discussion, the limitations and methodological weaknesses inherent in this study will be described throughout. Finally, this chapter will conclude with a summary of the main findings and suggestions for future research.

4.1 TEMPERAMENT, MORAL AFFECT, AND PARENTING PRACTICES IN RELATION TO CHILDHOOD CONDUCT PROBLEMS

Difficult temperament, low moral affect, higher levels of negative and lower levels of positive parenting have been shown to be related to conduct problems in children. To determine whether children with and without conduct problems in the current study differed on their infant temperamental qualities, middle-childhood moral affect and type of parenting practices experienced, the first hypothesis (i.e. children in the conduct problem group will have higher scores on difficult temperament, negative parenting and parental ratings of low moral affect and lower scores on self-reported moral affect and positive parenting) was tested.

To determine the nature of the relationships between these variables and conduct problems, hypothesis 2a (i.e. difficult temperament, parental reports of low moral affect (i.e., callous-unemotional traits) and negative parenting will be positively correlated with children's aggressive and delinquent conduct problems) and 2b (i.e. children's self reported moral affect and positive parenting will be negatively correlated with children's conduct problems) were tested. The results are discussed below.

4.1.1 Difficult temperament and conduct problems

Children in the conduct problem group were rated significantly higher on a measure of difficult temperament. Retrospective ratings of difficult temperament in infancy

were also significantly correlated with both aggressive and delinquent conduct problems. These findings are consistent with a substantial body of literature whereby difficult temperament has been implicated as an important risk factor for conduct problems (Bates & Bayles, 1988; Bates, et al, 1985; 1991; Rothbart & Bates, 1998; Sanson & Prior, 1999).

4.1.2 Moral affect and conduct problems

Conduct problem children were rated by parents as having significantly lower levels of moral affect (i.e., callous-unemotional traits). They also rated themselves as significantly lower on empathy. Parental reports of low moral affect (i.e. callous-unemotional traits) was related to childrens' aggressive and delinquent conduct problems and childrens' self-reported empathy was related to aggression scores on the CBCL. These results concur with the forensic and developmental research whereby lower levels of moral affect have been related to higher levels of antisocial behaviour (Frick, 1998; Miller & Eisenberg, 1988). It is also consistent with the view that emotion may serve as an inhibitor of antisocial acts (Tangney, 1995).

The finding that empathy was related to aggressive conduct problems and not delinquent conduct problems can be understood in the context of the theoretical distinctions that have been made between overt and covert conduct problems (Loeber & Schmalling, 1985). Covert conduct problems refer to non-aggressive behaviours such as: lying, stealing, and damage to property (Snyder & Patterson, 1987) and are consistent with the items covered in the delinquency sub-scale of the

CBCL. In contrast, overt conduct problems refer to aggressive behaviours such as: assault and anti-social conduct directed at other persons (Snyder & Patterson, 1987). These behaviours are more consistent with the aggressive items assessed on the CBCL. Since aggression is also considered to be a stable temperamental attribute (Olweus, 1979) the presence of a significant correlation between empathy and aggression and not delinquency is understandable. Furthermore, the relationship between low empathy and aggression is consistent with the psychopathy literature whereby the presence of psychopathic traits is associated with more frequent and more severe violence in adult offenders (Hart, et. al., 1988; Hare, 1991).

Although the results discussed above confirmed the hypothesised relationships between temperament, moral affect and conduct problems, several characteristics of the data should be considered. The first point relates to the relationship between parental reports of childrens' moral affect (i.e. callous-unemotional traits) and conduct problems. The second point refers to the unexpected results associated with childrens' self-reported guilt. These points will now be discussed.

The correlations among the callous-unemotional scale and conduct problem measures are markedly stronger than the relationships reported in other research. For example, Frick (1998b) reported a correlation of r = .50 between callous-unemotional traits and the conduct problem dimension of the PSD. The strong relationship in the current study raises the possibility that the callous-unemotional dimension may be measuring a similar construct to the conduct problems scales on

the CBCL. However, alternative explanations are also possible. Firstly, the order of administration of the instruments may have inflated the scores i.e. parents completed the conduct problem sub-scales and then the PSD. It is therefore possible that parents were 'primed' to rate their children on the PSD according to their preceding ratings thus inflating the strength of the relationship. Aman (1993) describes this process as a "halo effect" where ratings are made on an overall impression of the child. A second explanation pertains to the possibility that the sample included in this research may have involved a more extreme group of conduct problem children. The conduct problem children in this group would be considered to have childhood-onset conduct problems and their behavioural difficulties were severe enough to merit contact with services. It is therefore possible that this sample may have been more likely to have the associated deficits in moral affect thus inflating the strength of the relationship.

In relation to the second point highlighted for consideration, it was noted that the observed relationships between children's guilt and conduct problems were inconsistent with the hypotheses. Group comparisons failed to show any significant differences between the two groups and guilt proneness was not correlated with aggressive or delinquent conduct problems. These results could be taken to indicate that children with and without conduct problems do not differ on their level of guilt. However, this is at odds with previous research in which "lack of guilt" has been shown to be related to antisocial behaviours in children (Frick, 1998a) and is

somewhat of a hallmark of conduct problems. For example, "lack of guilt" is a symptom in the official nomenclature for conduct disorders (DSM-IV, APA, 1994).

An alternative explanation may be that there were problems with the measure of guilt-proneness due to its somewhat abstract quality. Emotions are difficult to measure (Zahn-Waxler & Radke-Yarrow, 1990) and paper and pencil tests which rely on responses to hypothetical situations such as the guilt-proneness items measured by the TOSCA-C are highly artificial and fail to account for motivational and situational influences that occur in real life settings. Unexpected findings were also found in relation to children's reports of guilt-experiences i.e, children in the conduct problem group reported a significantly higher level of guilt-experiences and this measure was positively correlated with both aggressive and delinquent conduct problems.

An important consideration is the potential for socially desirable responding on the guilt measures. It is widely accepted that a feature of antisocial individuals is that they do know the difference between right and wrong (Mealey, 1995). The following case is presented to provide some qualitative evidence for this possibility.

An 8 year old boy included in the current study recalled the incident that led to his first contact with the police. He described how he killed a neighbours fish by throwing bricks in the garden pond. He stated clearly and unequivocally that he felt no guilt about this incident and justified his actions by stating that "they were being

nasty to me so I squashed one of their fish". On the parent report of low moral affect, (i.e. callous-unemotional traits) the child scored 10 out of a maximum of 12 -- higher ratings indicate lower levels of moral affect -- but scored 14 out of 22 on the Index of Empathy, 12 out of 12 on guilt-experiences (DES-III) and 69 out of 75 on the guilt-proneness dimension of the TOSCA-C -- higher scores on these measures indicate higher levels of moral affect. This boy also told stated "I lie all the time, my sister tells the truth, but I lie".

However, in relation to the above point, drawing on the distinction between the affective and cognitive components of moral affect (Cohen & Strayer, 1996), it is possible that, paper and pencil measures only tap the cognitive aspect of emotion and not the true affective nature of an individuals emotion. It could therefore be suggested that the guilt measures in this study represent only the child's cognitive component of guilt and that, children with and without conduct problems do not differ in this respect. This is consistent with the psychopathy literature whereby these individuals are considered to have perspective taking skills which enhance their ability to con and manipulate others, but that they lack concordant affect. Clearly more sophisticated measures of guilt are required to ascertain the most probable reason for these results.

Overall, the results can be taken to suggest that children with conduct problems have more difficult temperamental qualities in infancy and lower moral affect (according to parental ratings and self-reported ratings of empathy) in their middle-

childhood. The differences in the type of parenting practices experienced by children with and without conduct problems will now be considered.

4.1.3 Negative parenting and conduct problems

Children in the conduct problem group experienced a significantly higher number of negative parenting practices and there was a strong correlation between both the negative parenting dimensions of the SOMA-PC and APQ and aggressive and delinquent conduct problems. The consistency of this finding with previous research concurs with the view that inept parenting may be both a causal and maintaining factor in children's conduct problems (Loeber & Stouthamer-Loeber, 1986; Lytton, 1990; Moffitt, 1993; Patterson, 1982; Rothbaum & Weisz, 1994).

4.1.4 Positive parenting and conduct problems

Children in the conduct problem group did not appear to experience lower levels of positive parenting and positive parenting was not significantly related to conduct problems. In fact, the positive parenting dimension on the SOMA-PC was actually positively correlated with aggressive conduct problems. This may be interpreted as showing that, in general, parents use a similar amount of positive parenting practices and that, for conduct problem children, it is the excess of negative parenting that is the important factor. This is consistent with the formulation provided by Eisenberg (2000) who argued that the effectiveness of inductive discipline is hampered in family contexts where negative parenting is also used.

In relation to the finding that parents of conduct problem children actually report more positive parenting, one interpretation of this relates to the possibility of a "compensatory" process. It is possible that a parent may experience guilt after executing harsh discipline and that this, in turn motivates them to engage with the child in a more positive manner. The resultant parent-child discipline style will therefore be inconsistent and as noted in chapter one, inconsistency in parenting is also a known risk factor for childhood conduct problems.

Taken together, the results suggest that negative parenting is a particularly important variable in relation to childhood conduct problems. On the basis of the above findings, it is also apparent that even if parents do attempt to use positive parenting, the presence of coercive and negative discipline practices may dilute or dissolve the beneficial effects of more positive disciplinary styles.

In summary, these initial results reveal that difficult temperament, low moral affect, and negative parenting are significantly related to conduct problems, however, these findings tell us little about the relative importance of these variables or their predictive value. The results from the regression analyses for aggressive and delinquent conduct problems will therefore now be discussed in an attempt to further explore the role of these variables.

4.1.5 Best predictors of conduct problems

The identification of "best predictor" variables can help delineate those risk factors that may most strongly influence the development of conduct problems and can be used to inform interventions. In the regression analyses for aggressive and delinquent conduct problems, parental reports of children's low moral affect (i.e. callous-unemotional traits) emerged as the strongest predictor, followed by negative parenting which also accounted for a significant amount of the explained variance.

These results are consistent with the view that lack of moral affect may place a child at high risk of conduct problems. Furthermore, the finding that callous-unemotional traits were relevant to both aggressive and delinquent conduct problems is consistent with the psychopathy literature whereby versatility in antisocial behaviour is an associated feature (Hare, 1991). However it is important to note that negative parenting also emerged as significant predictor. This highlights the need for caution when considering the conclusions of Wootton et. al., (1997) who argue that for children with callous-unemotional traits, negative parenting may not influence the development of conduct problems. This finding is particularly important from the applied perspective since parenting practices can be targeted for treatment and that to-date, the responsivity to parent training programmes of children with low moral affect has not been systematically studied.

4.2 THE ROLE OF TEMPERAMENT IN RELATION TO PARENTING AND MORAL AFFECT

Difficult temperament is considered to be a potential trigger to negative parenting and a suppressor of positive parenting. However, the possibility that difficult temperament may also reflect individual differences which manifest as low moral affect has also been proposed. The third hypothesis (i.e. difficult temperament will be positively correlated with parental reports of negative parenting practices and negatively correlated with parental reports of positive parenting practices) was therefore formulated in order to examine the relationship between temperament and parenting.

The fourth hypothesis (i.e. parental reports of difficult temperament will be positively related to parental ratings of children's low moral affect (i.e. callous-unemotional traits) and negatively related to children's self-reported moral affect) was tested to ascertain the role of temperament in relation to low moral affect.

4.2.1 Temperament and negative parenting

Difficult temperament was significantly correlated with the negative parenting dimension of the SOMA-PC. This finding provides empirical data in support of the argument that children's temperament may trigger negative parenting (Moffit, 1993; Patterson, 1982; Rothbart & Bates, 1998). However, before accepting this result, it should be borne in mind that, many factors can influence an infant's behaviour.

Within the literature, poor mother-infant attachment, maternal psychopathology and marital discord are known risk factors for conduct problems (Waddell, et. al., 1999). Processes such as these may reduce a parent's level of responsivity and thus cause a child to experience a heightened level of distress due to its needs being unmet, this may then cause further frustration to parents and increase the likelihood of inept parenting. In this case, it is not a temperamental, but a parenting effect that explains the relationship. The current study failed to account for the possible confounding variables, therefore the relationship between difficult temperament and negative parenting is equivocal. However, the results are consistent with the literature and are consistent with contemporary theories regarding the role of temperament in conduct problems (e.g., Moffitt, 1993; Rothbart & Bates, 1998; Sanson & Prior, 1999).

4.2.2 Temperament and positive parenting

Difficult temperament was not related to positive parenting. This suggests that theories whereby difficult temperament is thought to have an aversive effect on parent's motivation or responsiveness may be incorrect (Bell & Chapman, 1986). However, although very small, the correlation between difficult temperament and the APQ measure of positive parenting was in the predicted direction and may reflect insufficient power of the sample size. Furthermore, the potential for social desirability in relation to positive parenting should also be considered since parents may be motivated to over-report their positive interactions and discipline practices.

4.2.3 Temperament and moral affect

Difficult temperament was significantly correlated with parental reports of low moral affect (i.e. callous-unemotional traits) and children's self-reported guilt experiences. These results are consistent with the possibility of a "direct linear effects" (Rothbart & Bates, 1998) model of temperament and lend support to Frick's (1998a; 1998b) argument that low moral affect (i.e. callous-unemotional traits) may reflect the presence of a specific temperamental style that might manifest as impaired moral affect in later childhood. However, the relationship with child self-report measures of moral affect were not consistent with this result. There were no significant correlations between difficult temperament and childrens' guilt proneness or empathy. As noted above there may be difficulties associated with using self-reported paper and pencil measures of guilt, furthermore, as noted in the results section, the non-significant relationship between difficult temperament and empathy may also reflect methodological limitations (i.e., insufficient power).

The findings described above support the view that temperamental traits may manifest in childhood as low moral affect. However, temperament is not the only factor thought to influence moral affect, and as described in the literature review, the presence of negative and absence of positive parenting practices are considered relevant to a child's level of empathy and guilt. These relationships were examined in the current study and the results will be discussed below.

4.3 THE ROLE OF PARENTING IN RELATION TO MORAL AFFECT

As detailed in chapter one, socialisation practices are known to predict children's levels of moral affect whereby positive parenting practices are associated with higher levels of moral affect and negative parenting with lower levels of moral affect. The last two hypotheses i.e., hypothesis five (parental reports of negative parenting will be positively correlated with parental reports of children's low moral affect (i.e. callous-unemotional traits) and negatively correlated with children's self-reported moral affect) and hypothesis six (parental reports of positive parenting will be negatively correlated with parental reports of children's low moral affect (i.e. callous-unemotional traits) and negatively correlated with children's self-reported moral affect) were tested to examine these relationships.

4.3.1 Negative parenting and moral affect

Negative parenting was significantly correlated with parental reports of low moral affect (i.e. callous-unemotional traits). The results from the stepwise regression analyses also indicated that parental reports of negative parenting emerged as the most significant predictor variable of parental reports of low moral affect (i.e. callous-unemotional traits). These results are consistent with theories and research which posit a causal role in relation to socialisation practices and moral affect (Eisenberg & Miller, 1990; Hoffman, 1970; Krevans & Gibb, 1998). This finding also casts doubt on the conclusions reached by Wootton et al (1997). As described above, Wootton et al., (1997) consider callous-unemotional traits to be a consequence of temperamental traits and not parenting factors.

However, the direction of effects in relation to parenting and moral affect is unclear and counter arguments can be made. For example, it could be argued that parents, when faced with a child low in moral affect, merely respond with negative parenting. This possibility is consistent with the data in the current study whereby regression analyses also indicated that parental reports of children's low moral affect (callous-unemotional traits) predicted a significant amount of the variance in negative parenting. In addition, the findings in relation to children's self-reported moral affect underscore the need for caution in interpreting the relationship between parenting and moral affect. No significant relationships were observed between negative parenting and children's self-reported empathy or guilt-proneness.

Nevertheless, the results described above suggest that parenting is associated with parental reports of low moral affect and that the conduct problems of children with callous-unemotional traits may not be explained only by temperamental factors.

4.3.2 Positive parenting and moral affect

A complex picture emerged in relation to positive parenting and children's moral affect. There were no significant relationships between positive parenting and parental reports of low moral affect (i.e., callous-unemotional traits). The results did however, show that the relationship between the APQ positive parenting dimension and parental reports of low moral affect (i.e., callous-unemotional traits) was in the predicted direction – insufficient power may therefore explain this result.

Furthermore, children's self ratings of guilt experiences and guilt proneness were significantly associated with the positive parenting dimension of the SOMA-PC.

These results are consistent with hypothesis 6 and concur with the socialisation theories described in chapter one thus confirming that the use of inductive disciplinary practices are related to guilt based emotions (Hoffman, 1970; Eisenberg & Miller, 1990; Krevans & Gibb, 1998).

Taken together the results discussed above suggest that negative parenting may impede children's moral affect while positive parenting may, at least promote guilt. However, the pattern of relationships is complex and the direction of effects unclear. Nevertheless, the possibility that both temperament and parenting practices impact on the affective characteristics of conduct problem children has important implications on both understanding and managing childhood conduct problems. Some of these implications will now be described.

4.4 IMPLICATIONS OF RESULTS

4.4.1 Development of conduct problems

The results are consistent with previous research in which, temperament, moral affect, and negative parenting have been implicated in the development of conduct problems. In relation to temperament, this study makes an important contribution since it provides empirical evidence for the argument that temperament may exert a range of influences in the development of conduct problems (Rothbart & Bates, 1998). The results were consistent with a 'temperament by parenting effect' i.e., difficult temperament appeared to precede conduct problems and was associated with negative parenting. A 'direct linear effect' was also apparent whereby difficult temperament was also related to children's low moral affect (i.e. callous-unemotional traits).

In relation to negative parenting, the findings are consistent with the coercive family processes theory whereby parental and child negative behaviours are considered to reinforce and maintain the other. Negative parenting was however also related to moral affect and implies that the presence of coercive parenting may impact negatively on the development of emotions known to inhibit antisocial behaviour in children. However, the results also indicated that a bi-directional influence may occur and that it is important to consider the inter-relationships between moral affect and parenting.

On the basis of these results, it can be argued that within the early-onset group, it is likely that multiple pathways may lead to conduct problems (Brame et. al., 2001). The results also support the argument that one potentially valuable method of understanding conduct problem children may be to consider how, in addition to understanding the process whereby parent to child interactions influence behaviour, we should also consider the impact of these processes on a child's level of moral affect. This may enable us to delineate different sub-groups of children who develop conduct problems by different processes -- this knowledge could make a valuable contribution to the treatment and management of these children.

4.4.2 Treatment of conduct problems

The difficulties faced by children with conduct problems and the negative impact on the victims, families, communities and society at large underscore the need for effective intervention for this population. Since prevention is better than cure, the findings from this study make a case for early intervention. Prevention programmes can be at a community based level or they can be delivered to children most at risk (Farrington 1999; Loeber 1990). Community based programmes are however, costly and this has led some writers to advocate for intervention only to high risk samples. Loeber (1990) identified examples of intervention programmes where simple and easily recognisable characteristics such as childhood hyperactivity, single-parent status, and reading problems could be used to identify an "at risk" population. However, even in these instances, there may have been long periods of parent-to-child interactions and behaviour problems may already be ingrained. The

finding that difficult temperament is implicated in conduct problems by its relationship to both negative parenting and low moral affect suggests that this characteristic could be used as a method of identifying an at risk group and provide the opportunity for intervention.

Results have shown that even brief educational information about child temperament may be useful in assisting parents to develop appropriate parenting strategies. Little (1983) had mothers complete temperament questionnaires about their child during a routine pediatric visit. The mothers were then given information on how to manage their child taking account of their child's temperament following a "goodness of fit" model. According to Little (1983) the mothers stated that they had found the information helpful and over half had indicated that they had changed their parenting practices as a result.

For those children who have progressed further down the developmental pathway to childhood conduct problems, intervention is based at remediation. Various treatment interventions for childhood conduct problems were described in chapter one, however the research has shown that parent management training is the most empirically supported treatment for this population. In the current study, negative parenting was related to conduct problems and appeared to have a bi-directional relationship with aggressive conduct problems thus suggesting that once conduct problems occur, negative parenting is exacerbated. However, when considered within the context of the results on temperament and moral affect, the relationship

between negative parenting and conduct problems appears more complex than a series of reinforcing negative behavioural interchanges. Although positive parenting was not shown to correlate with parental reports of childrens' low moral affect, it did correlate with children's self-reported guilt. One suggestion emanating from this is that parent management programmes, as well as focusing on changing the reinforcing contingencies for problem behaviour, should place a considerable emphasis on teaching parents the necessary skills of inductive discipline techniques.

An other promising development pertains to incorporating "temperament-focused" strategies within parent training programmes. Using the framework of "goodness of fit", Sheeber & Johnson (1994) described the results of a temperament-focused intervention for mothers whose children were rated as having a difficult temperament. The results were encouraging. There were reductions in mother-rated behaviour problems, and associated improvements in the parent-child relationships, parents perceived competence, and family lifestyle.

As well as building on existing treatments, the results also indicate the need for treatments that promote empathy and guilt in conduct problem children. Such programmes are available for adult and juvenile offenders (Gibbs, 1987). It would be valuable to evaluate the applicability and efficacy of such interventions at the childhood level.

To-date our knowledge of the development of low moral affect in conduct problem children is still rudimentary, however, the apparently potent effect of these deficits demands intervention. The identification of the causal factors for these impairments and the development and delivery of preventive and rehabilitative interventions should therefore be considered a high priority amongst researchers.

4.5 METHODOLOGICAL PROBLEMS OF THE CURRENT STUDY

In considering the current study, several limitations should be acknowledged. The first difficulty pertains to the sample size and characteristics. The results are based on a small sample of male children which limits the generalisability of the results. Furthermore, the small sample size may have reduced the power of the study. Several of the results were significant only at the $p < .05$ level and other hypothesised results were in the predicted direction but were non-significant. It is therefore possible that the sample size did not have sufficient power to demonstrate significant relationships.

It is also important to note that the characteristics of the sample may have influenced the findings. For example, the conduct problem children may represent an "extreme" group whereby their difficulties were of sufficient severity to merit intervention at an early age. Whereas, in contrast, the control group may be representative of "supernormal" children. Two features of this sub-sample allude to this possiblity. Their verbal IQ was above average and they also exhibited a very low rate of disruptive behaviour: some transient behavioural problems are

considered "normal" during childhood. The differences between the groups may therefore have been inflated. However, sampling extreme groups in preliminary studies is a useful design.

The recruitment procedure employed was also problematic. Recruitment relied heavily on teachers and clinicians to identify suitable participants for the study. Although, neither school staff nor mental health workers were privy to the full details of the study, they were informed that the study was about temperament, parenting practices and moral affect. It is therefore possible that a recruitment bias may have been operating, whereby, children were selected in terms of their suitability for the research question as opposed to simply displaying symptoms of conduct problems.

Difficulties also relate to the methods of data collection employed in this study. Relying on rating scales and questionnaire methods is problematic. In relation to parental reports of their children's moral affect and conduct problems, parents can only rate behaviours that they have observed thus ratings of conduct problems may be inaccurate. Furthermore, inferring an emotion to a child may be difficult since some children may hide or deny their feelings. An additional source of response bias may also come from the raters own mental state. Parents who have mood problems may have a negative cognitive set and a low threshold for tolerating childhood behaviours (Hogg, Rutter, & Richman, 1997; Richters, 1992)

There are also specific concerns in relation to using children's self-report data to measure emotion. Batson (1987) notes that the value of using self-report rests on two assumptions, i.e., people know what they feel, and that participants can and dp accurately report their feelings. However, according to Batson (1987) some children may not be able to recognise or interpret their feelings accurately. Providing retrospective reports about the frequency of certain emotional experiences (e.g. the DES-III) or considering the likelihood of certain feelings in hypothetical situations (e.g. the TOSCA-C and Index of Empathy) may be difficult for children.

The use of questionnaires to assess parenting practices has also been questioned due to the inherent methodological limitations of such scales (e.g. response bias, ambiguity of items, lack of opportunity for parents to clarify or embellish upon their responses, Holden & Edwards, 1989). Questionnaire methods have also been associated with lower effect sizes than other measures. For example, on the basis of a meta-analysis of 47 studies, Rothbaum & Weisz (1994) calculated a mean study effect size of r = .28 for parenting practices and externalizing children using a variety of methods, but questionnaire methodology was associated with a much lower effect size of r = .11. However, in the current study there was a strong correlation between the negative parenting dimensions in both the APQ and SOMA-PC and conduct problems (r = .63 to r = .70).

These considerations suggest that ratings of children's behaviours, emotions and the type of parenting practices to which they are exposed should be based on multiple

informants. Given the complexity of measuring children's emotion future research should include multiple methods, for example, self-report information, physiological measures and laboratory paradigms. The inclusion of physiological and laboratory instruments is particularly important given the possibility that children with antisocial conduct problems may provide socially desirable responses.

A further limitation relates to the use of a cross-sectional design. Such methodologies preclude any conclusions regarding the direction of effects. Longitudinal research is needed to disentangle the associations between temperament, moral affect, parenting and conduct problems. A fourth limitation relates to the narrow range of risk factors included in the current study. As noted in chapter one, many variables are related to conduct problems and additional factors may have confounded the results of the current study. For example, maternal psychopathology and marital discord were not controlled for. It is important that other potentially mediating variables are included in research studies so that their effects can be partialled out.

Finally, the statistical procedures employed also had limitations. The inference of relationships among the variables studied in this research were based primarily on correlational procedures. While the majority of the results were consistent with the predictions made and the relevant literature, it should be noted that a significant correlation only implies association, and not causation. Furthermore, as discussed in the results section, a stepwise multiple regression procedure was employed to

determine which variables emerged as the best predictors of conduct problems, low moral affect and negative parenting. Two main problems with this procedure are relevant. First, the order of entry in this procedure is based on statistical criteria and it can be problematic since variables can enter and leave the regression equation at different points. Second, the sample size is well below the recommended level. The results should therefore be interpreted cautiously.

4.6 THE PSD: CONSTRUCT VALIDITY

An important finding in the current study that merits a closer discussion relates to the usefulness and construct validity of the PSD. At the moment, the PSD is currently being used as a measure of "psychopathic traits" in children in both Canadian (e.g., Frick 1994a, Wootton, et al., 1997) and British samples (Blair, 1999). It is also in the process of becoming a published instrument. However, as noted above, in the sample included in the current study, the correlation between the callous-unemotional traits dimension of the PSD and the conduct problem subscales was strong and raised the possibility that these assessments may have been measuring the same, or overlapping constructs.

A recent paper by Burns (2000) commented on the content overlap of each of the PSD sub-scales and the symptoms and associated features of the DSM-IV criteria for each of the disruptive behaviour disorders (Oppositional Defiant Disorder, Conduct Disorder, and Attention Deficit Hyperactivity Disorder). In his review, Burns (2000) argued that the PSD has poor discriminant validity and that this

creates difficulties for the PSD as an assessment procedure. According to Burns (2000) high scores on the PSD may reflect child psychopathy, but they could also reflect the presence of one or more of the disruptive behaviour disorders (DSM-IV, APA, 1994).

Frick (2000) responded to Burns's (2000) article and emphasised that an adequate assessment of psychopathy does not need to be entirely independent from the antisocial behaviour disorders included in the DSM-IV. According Frick (2000) drawing on the concept of equifinality, he argues that different processes may lead to the same symptom patterns and that accordingly, psychopathic traits may serve as a framework with which to understand one developmental pathway that leads to conduct problems. Therefore, according to Frick (2000) a lack of a relationship between psychopathy and conduct problems would be inconsistent with the conceptual model underpinning the psychopathy.

Applying the term psychopathy to children is an important issue which raises important ethical issues. However, the associated features of adult psychopathy and the costs incurred to the victims at both an emotional, physical and financial level by these individuals indicates that everything should be done in order to understand the development of this condition so that appropriate interventions can be designed and delivered. To achieve this, psychopathic characteristics will need to be studied at the childhood level. It is therefore important that this construct in appropriately defined and appropriately measured. The PSD is in its early stage of development

and it is important that researchers using this instrument emphasise its associated limitations. However, one potentially valuable area for future research would be to design studies which validate an assessment of psychopathic traits with currently available developmentally based measures designed to tap similar emotional and interpersonal features of psychopathy. Construct validity of this sort would help resolve the debate outlined above.

4.7 CONCLUSIONS AND ISSUES FOR FUTURE RESEARCH

On the basis of the above study, it can be concluded that difficult temperament, low moral affect and negative parenting practices are related to childhood conduct problems. However, future research effort is necessary to further study the role and relationships among these variables. Although the findings from the current study are consistent with the literature, it is important that the generalisability of the finding are checked. It is therefore important that this research is replicated with a much larger sample size using a more comprehensive, multi-informant, multi-method research design. However, cross-sectional studies are limited and give sparse information regarding the direction of effects or causaility. It is therefore necessary for methodologically sophisticated research to be designed so that causal risk factors for childhood conduct problems can be identified. Longitudinal research provides an appropriate method of identifying causal risk factors and tracking them across the individuals development. Studies of this nature contribute to our understanding of development and provide information regarding appropriate treatment targets and periods of intervention.

Future studies should also endeavor to include appropriate measures of childhood moral affect and factors relevant to the development of impaired functioning at this level. This however requires appropriate assessment. An appropriate assessment should have appropriate construct validity, be developmentally based, and assess constructs that are closely linked with adolescent and adult assessments of psychopathy.

Through this type of research, the study of childhood conduct problems, adolescent delinquency and adult criminality will be greatly advanced. We will be able to move forward in both understanding and treating antisocial disorders as the research delineates the many different pathways and causal factors relevant to this population. However, whilst we await the result of such research it is important that child mental health workers continue to use the evolving findings to ensure that optimal treatments are delivered to conduct problem children and their families. Several recommendations for intervention were described above. It is important that researchers continue to improve and refine available treatments and to work on developing new models of intervention consistent with the deficits and needs identified by research.

REFERENCES

Abelman, R., (1985). Styles of parental disciplinary practices as a mediator of children's learning from pro-social television portrayals. Child Study Journal, 15, pp 131-145

Achenbach, T.M., & Edelbrock, C., (1983). Manual for the Child Behaviour Checklist and Revised Child Behaviour Profile. Burlington: University of Vermont. Department of Psychiatry., T.M., (1983)

Achenbach, T.M. (1991) Manual for the CBCL/4-18 and 1991 profile. Burlington: University of Vermont.

Achenbach, T.M., (1995). Empirically based assessment and taxonomy: Applications to clinical research. Special Issue: Methodological issues in psychological assessment research. Psychological Assessment, 7(3), pp 261-274.

American Psychiatric Association (1994). Diagnostic and Statistical Manual for the Mental Disorders, (4th edition). Washington, DC.

Aman, M.G., (1993). Monitoring and measuring drug effects. In J.S. Werry and M.G. Aman (Eds). A practitioner's guide to psychoactive drugs for children and adolescents. New York: Plenum.

Barry, C.T., Frick., P.J., Grooms, T., Mccoy, M.G., Ellis, M., & Loney, B,R., (2000). The importance of callous-unemotional traits for extending the concept of psychopathy to children. Journal of Abnormal Psychology, Vol 109, No. 2., pp 335-340.

Bates, J.E, & Bayles, K. (1988). The role of attachment in the development of behaviour problems. In J. Belsky & T, Nezworski (Eds), Clinical Implications of Attachment, pp. 253-299, Hillsdale, NJ: Erlbaum.

Bates, J.E., (1990) Conceptual and empirical linkages between temperament and behaviour problems: A commentatry on the Sanson, Prior, and Kyrios study. Merrill-Palmer Quarterly, 36, pp. 193-199.

Bates, J.E., Bayles, K., Bennett, D.S., Ridge, B., & Brown, M.M. (1991). Origins of externalizing behaviour problems at eight years of age. In D.J. Pepler & K.H. Rubin (Eds), The Development and Treatment of Childhood Aggression pp 93- 120. Hillsdale, NJ, Erlbaum.

Bates, J.E., Maslin, C.A., & Frankel, K.A., (1985). Attachment, security, mother-child interaction and temperament as predictors of behaviour problem ratings at age three years. Monographs of the Society for Research in Child Development, 50 (1-2, Serial No. 209).

Batson, C.D. (1987). Self-report ratings of empathic emotion. In N. Eisenberg. Empathy and its Development. Cambridge University Press. Cambridge.

Bell, R.Q., & Chapman, M. (1986). Child effects in studies using experimental or brief longitudinal approaches to socialization. Developmental Psychology, 22, pp 595-603.

Blair, R. J.R., (1999). Responsiveness to distress cures in the child with psychopathic tendencies. Personality and Individual Differences. Vol. 27 pp 135-145.

Blair, R. J. R., Jones, L., Clark, F., & Smith, M. (1997). Is the psychopath "morally insane". Personality and Individual Differences, 19, pp 741-752.

Brame, B., Nagin, D.S. & Tremblay, R.E., (2001). Developmental trajectories of physical aggression from school entry to late adolescence. Journal of Child Psychology and Psychiatry. Vol 42, No. 4. pp 503-513.

Brestan, E.V., & Eyberg, S. (1998). Effective Psychosocial Treatments of Conduct-Disordered Children and Adolescents: 29 years, 82 studies and 5, 272 Kids. Journal of Clinical Child Psychology. Vol. 27, No.2, pp 180-189.

Burns, G.L., (2000) Problem of Item Overlap Between the Psychopathy Screening Device and Attention Deficit Hyperactivity Disorder, Oppositional Defiant Disorder, and Conduct Disorder Rating Scales. Psychological Assessment, Vol. 12, No. 4, pp. 447-450.

Bryant, B.K., (1982). An Index of Empathy for Children and Adolescents. Child Development, 53, pp 413-425.

Brymen, A., & Cramer, D., (1997). Quantitative Data Analysis with SPSS for Windows. A Guide for Social Scientists. Routledge. London.

Carr, A., (1998). The Handbook of Child and Adolescent Clinical Psychology: A Contextual Approach. Routledge. London.

Christian, R., Frick, P.J., Hill, N., Tyler, L.A., & Frazer, D., (1997). Psychopathy and conduct problems in children: Sub-typing children with conduct problems based on their interpersonal and affective style. Journal of American Academy of Child and Adolescent Psychiatry, 36, pp 233-241.

Clarke-Stewart, K.A., Fitzpatrick, M.J. Allhusen, V.D., Goldberg, W.A., (2000). Measuring Difficult Temperament the Easy Way. Developmental and Behavioural Pediatrics. Vol. 21, No. 3., pp. 207 – 220.

Cleckley, H., (1976). The Mask of Sanity (5th Ed) St. Louis, MO: Mosby.

Cohen, D., & Strayer, J. (1996). Empathy in Conduct-Disordered and Comparison Youth. Developmental Psychology. Vol. 32, No. 6., pp 988-998.

Cooke, D.J. & Michie, C (1997). An Item Response Theory Analysis of the Hare Psychopathy Checklist – Revised. Psychological Assessment, Vol. 9, No.1, pp 3-14.

Darling, N., & Steinberg, L (1993). Parenting Style as Context: An Integrative Model. Psychological Bulletin, Vol 113. No. 3, pp 487-496.

Dishion, T.J., Reid, J.B., & Patterson, G.R., (1988). Empirical guidelines for a family intervention for adolescent drug use. Journal of Chemical Dependency Treatment, 1, pp 189-224.

Dlugokinski, E.L., & Firestone, I.J., (1974). Other centeredness and susceptibility to charitable appeals: Effects of perceived discipline. Developmental Psychology, 10, pp 21-28.

Dodge, K.A., & Coie, J.D., (1987). Social-information-processing factors in reactive and proactive aggression in children's peer groups. Journal of Personality and Social Psychology, 53, pp 1146-1158.

Dodge, K.A., & Newman, J.P., (1981). Biased decision-making processes in aggressive boys. Journal of Abnormal Psychology, 90(4), pp 375 – 379.

Edelbrock, C., Costello, A.J., Dulcan, M.K., Kalas, R,. Conover, N.C., (1985). Age differences in the reliability of the psychiatric interview of the child. Child Development, 56, pp 265-275.

Eisenberg, N. & Miller, P (1990). The Development of Pro-social Behaviour versus Non-prosocial Behaviour in Children. In. M. Lewis and S.M. Miller (eds). Handbook of Developmental Psychopathology. Plenum, New York.

Eisenberg, N. (2000). Emotion, regulation and moral development. Annual Review of Psychology. 51, pp 665-697.

Eisenberg, N., & Miller, P.A., (1987). The relation of empathy to pro-social and related behaviours. Psychological Bulletin, 101, pp 91-119.

Ellis, P.L. (1982). Empathy: A factor in antisocial behaviour. Journal of Abnormal Child Psychology, 10(1), pp 123-134.

Emery, R.E., (1982). Interparental conflict and the children of discord and divorce. Psychological Bulletin, 92, pp 310-330.

Farrington, D.P. (1999). Conduct disorder and delinquency. Risks and outcomes in developmental psychopathology. In. H. Stenihausen & F.C. Verhulst (Eds). Oxford University Press. Oxford.

Fergusson, T. J., & Stegge, H. (1998). Measuring guilt in children: a rose by any other name still has thorns. In J. Bybee (Ed). Guilt and Children. pp 19-74. San Diego: Academic.

Fergusson, T.J., Stegge, H., & Damhius, I. (1991). Children's understanding of guilt and shame. Child Development, 62, pp 827-839.

Feschbach, N., & Feschbach, N., (1969). The relationship between empathy and aggression in two age groups. Developmental Psychology, 1, 102-107.

Forth, A., Hart, S.D., & Hare, R.D., (1990). Assessment of psychopathy in male young offenders. Psychological Assessment,. 2(3), pp 342-344.

Forth, A., Hare, R.D., De Vita, E. The family background of criminal psychopaths. Unpublished manuscript. University of British Columbia.

Fraunglass, S., & Routh, D.K., (1999). Assessment of the Disruptive Behaviour Disorders: Dimensional and Categorical Approaches. In H.C. Quay & A.E. Hogan. Handbook of Disruptive Behaviour Disorders.. Kluwer Academic/Plenum Publishers. New York.

Frick, P.J., (1991). The Alabama Parenting Questionnaire (APQ). Unpublished rating scales. The University of Alabama.

Frick, P.J. (1993). Childhood conduct problems in a family context. School Psychology Review, 22(3), pp 376-385.

Frick, P.J. (2000). The Problems of Internal Validation Without a Theoretical Context: The Different Conceptual Underpinnings of Psychopathy and the Disruptive Behaviour Disorder Criteria. Psychological Assessment, Vol.12, No. 4, pp 451-456.

Frick, P.J., Kamphaus, R.W., Lahey, B.B., Loeber, R,. Christ, M.A.G., Hart, E.L., & Tannenbaum, L.E. (1991). Academic underachievement and the disruptive behaviour disorders. Journal of Consulting and Clinical Psychology, 59, pp 289-294.

Frick, P.J., Lahey, B.B., Loeber, R., Southamer-Loeber, M., Crist, M.A.G., & Handon, H. (1992). Familial risk factors to Oppositional Defiant Disorder and Conduct Disorder: Parental psychopathology and maternal parenting. Journal of Consulting and Clinical Psychology, 60, pp 49-55.

Frick, P.J., (1994). Family dysfunction and the disruptive behaviour disorders: A review of recent empirical findings. In T.H. Ollendick & R.J. Prinz (Eds.), Advances in Clinical Child Psychology. Vol 16, pp 203-222. New York:Plenum.

Frick, P.J., Bodin, S.D. & Barry, C.T. (2000). Psychopathic Traits and Conduct Problems in Community and Clinic-Referred Samples of Children: Further Development of the Psychopathy Screening Device. Psychological Assessment Vol. 12, No. 4, pp 382-393

Frick, P.J., O'Brien, B.S., Wootton, J.M., & Mcburnett (1994). Psychopathy and Conduct Problems in children. Journal of Abnormal Psychology, Vol. 103, No. 4. pp 700-707

Frick, P.J. (1998a) Conduct Disorders and Severe Antisocial Behaviour. Clinical Child Psychology Library.

Frick, P.J. (1998b). Callous-Unemotional Traits and Conduct Problems: Applying the Two-Factor Model of Psychopathy to Children. In D.J.Cooke (Eds). Psychopathy: Theory, Research and Implications for Society, pps. 161-187. Kluwer Academic Publishers. Netherlands.

Frick, P.J. & Ellis, M., (1999). Callous-Unemotional Traits and Subtypes of Conduct Disorder. Clinical Child and Family Psychology Review, Vol. 2., No. 3..

Frick, P.J. & Hare, R.D., (in press). The Psychopathy Screening Device. North Tonawanda: Multi-Health Systems.

Frick, P.J., Lilienfeld, S.O., Ellis, M.L., Loney, B.R., & Silverthorn, P. (1999). The association between anxiety and psychopathy dimensions in children. Journal of Abnormal Psychology, 103, pp 700-707.

Frick, P. J., & Loney, B.R., (1999). Outcomes of children and adolescents with conduct disorder and oppositional defiant disorder. In H.C. Quay & A. Hogan (Eds). Handbook of Disruptive Behaviour Disorders, pp 507-524. New York: Plenum.

Gardner, F.E.M., (1987). Positive interactions between mothers and conduct-problem children and their training for harmony as well as fighting. Journal of Abnormal Child Psychology, 15 pp 288 to 293.

Gibbs, J. (1987). Social Processes in Delinquency: The Need to Facilitate Empathy as Well as Sociomoral Reasoning. In W.M. Kurtines and T.L. Gewirtz. Moral Development through Social Interaction. New York: Wiley.

Greene, J., & D'Oliveria, M. (1982). Learning to use Statistical Tests in Psychology. Open Guides to Psychology. Open University Press. Milton Keynes.

Greenberg, M.T., & Speltz, M.L., (1988). Contributions of attachment theory to the understanding of conduct problems during the preschool years, In L. Belsky & T. Nezworski (Eds.). Clinical Implications of Attachment. pp 177-281, Hillsdale, NJ: Erlbaum.

Greenberg, M.T., Speltz, M.L., & deklyen, M., (1993). The Role of Attachment in the Early Development of Disruptive Behaviour Problems. Development and Psychopathology, 5, pp 191-213.

Guerin, D.W., & Gottfried, A.W., (1994). Developmental stability and change in parent reports of temperament: A ten year longitudinal investigation from infancy through preadolescence. Merrill Palmer Quarterly, 40(3), pp 334-355.

Guerin, D.W., Gottfried, A.W., & Thomas, C.W., (1997). Difficult temperament and behaviour problems. A longitudinal study from 1.5 to 12 years. International Journal of Behaviour Development, 21, pp. 71-90.

Hair, J.F., Anderson, R.E., Tatham, R.L., & Black, W.C., (1998). Mutivariate Data Analysis. 5th Ed. Prentice-Hall International, Inc. New Jersey.

Hare, R.D. (1975). Psychophysiological studies of psychopathy. In D.C., Fowks (Ed) Clinical Application of Psychophysiology. New York: Columbia University Press.

Hare, R.D. (1991). Manual for the Revised Psychopathy Checklist. Toronto. Multi-Health Systems.

Hare, R.D. (1994). Without Conscience: The Disturbing world of the Psychopath among us. Pocket: New York.

Hare, R.D., Hart, S.D., & Harpur, T.J., (1991). Psychopathy and the DSM-IV criteria for antisocial personality disorder. Journal of Abnormal Psychology, 100, pp 391-398.

Hare, R.D., McPherson, L.M., & Forth, A., (1988). Male psychopaths and their criminal careers. Journal of Consulting and Clinical Psychology, 56, pp 710-714.

Harpur, T.J., Hare, R.D., & Hakistan, A.R., (1989). Two-factor conceptualization of psychopathy: Construct validity and assessment implications. Psychological Assessment, 1, pp 6-17.

Harris, P.L., (1989). Children and Emotion: The Developmemt of Psychological Understanding. New York: Basil Blackwell.

Harris, G.T., Rice, M.E., & Cormier, C.A. (1991). Psychopathy and violent recidivism. Law and Human Behaviour, 15, pp 625-637.

Harris, G.T., Rice, M.E., & Quinsey, V.L. (1994). Psychopathy as a taxon: Evidence that psychopaths are a discrete class. Journal of Consulting and Clinical Psychology, 62(2) pp 387 – 397.

Hart, S., Kropp, P.R., & Hare, R.D., (1988). Performance of male psychopaths following conditional release from prison. Journal of Consulting and Clinical Psychology, 56, pp 227-232.

Hoffman, M.L. (1970). Moral development. In P. Mussen, (Ed) Carmichael's Manual of Child Psychology. Vol 2, pp 241-359. New York. Wiley.

Hoffman, M.L., (1998). Varieties of empathy-based guilt. In J Bybee (Ed) Guilt and Children. 4, 91-112. New York, Academic.

Hogg, C., Rutter, M., & Richman, N. (1997). Emotional and Behavioural Problems in Children. In. I. Sclare (Ed). Child Psychology Portfolio. NFER Nelson.

Holden, G.W., & Edwards, L.A., (1989). Parental attitudes toward child rearing: Instruments, issues, and implications. Psychological Bulletin, 106, pp 29-58.

Kazdin, A.E., (1986). Treatment of antisocial behaviour in children and adolescents. Homewood, IL: Dorsey.

Kazdin, A.E., (1997). Psychosocial treatments for conduct disorder in children. Journal of Child Psychology and Psychiatry, 38, pp 161-178.

Keller, H.R., (1986). Behavioural observation approaches to personality assessment. In H.M. Knoff (Ed). The Assessment of Child and Adolescent Personality. (353-390). New York: Guilford.

Kinnear, P.R & Gray, C.D (1994). SPSS for Windows Made Simple. Lawrence Erlbaum Associates. East Sussex, UK.

Kochanska, G., Devet, K., Goldman, M., Murray, K., (1994). Maternal reports of conscience development and temperament in young children. Child Development, 65(3) pp 852-868.

Kotsch, W.E., Gerbing, D.W., Schwartz, L.E. (1982). The construct validity of the Differential Emotions Scale as adapted for children and adolescents. In C.E. Izard, (Ed). Measuring Emotions in Infants and Children. Cambridge University Press. Cambridge.

Krevans, J., & Gibb, J.C., (1998). Parents' Use of Inductive Discipline: Relations to Children's Empathy and Pro-social Behaviour. Child Development, 67, pp 3263-3277.

Lahey, B.B., & Loeber, R. (1994). Framework for a Developmental Model of Oppositional Defiant Disorder and Conduct Disorder. In D.K. Routh (Ed), Disruptive Behaviour Disorders in Childhood, pp 139-180, Plenum Press: New York.

Lahey, B.B., Loeber, R., Quay, H.C., Frick, P.J., & Grimm, J., (1992). Oppositional defiant disorder and conduct disorders: Issues to be resolved for DSM-IV. Journal of the American Academy of Child and Adolescent Psychiatry, 29, pp 620-626.

Lahey, B,B., Loeber, R., Hart, E.L., Frick, P.J., Applegate, B., Zhang, Q., Green, S.M., & Russo, M.F., (1995). Four-year longitudinal study of Conduct Disorder in Boys: Patterns and Predictors of Persistence. Journal of Abnormal Psychology, 104, pp 83-93.

Lee, C.L & Bates, J.E., (1985). Mother-child interaction at age two years and perceived difficult temperament. Child Development, 56, 1314-1325.

Little, D.L. (1983). Parent acceptance of routine use of the Carey and McDevitt Infant Temperament Questionnaire. Pediatrics, 71, pp 104-106.

Loeber, R., (1990). Developmental and risk factors of juvenile antisocial behaviour and delinquency. Clinical Psychology Review, 10, pp 1-41.

Loeber, R., & Schmalling, K.B., (1985). Empirical evidence for overt and covert patterns of antisocial conduct problems: A meta-analysis. Journal of Abnormal Child Psychology, 13, pp 337-352.

Loeber, R., & Stouthamer-Loeber, M. (1986). Family factors as correlates and predictors of juvenile conduct problems and delinquency. In M. Tonry & N. Morris (Eds). Crime and Justice (Vol. 7) pp. 29-149. University of Chicago Press: Chicago.

Loney, B.R., Frick,P.J,. Clements, C.P. & Ellis, M.L. (unpublished). Callous-unemotional traits, impulsivity and emotional processing in antisocial adolescents.

Loney, B.R., Frick, P.J., Ellis, M.L,. & McCoy, M.G., (1998). Intelligence, psychopathy, and antisocial behaviour. Journal of Psychopathology and Behavioural Assessment. 20, pp 231-247.

Long, P., Forehand, R., Weirson, M., & Morgan, A. (1994). Does parent training with young non-compliant children have long-term effects ? Behaviour Research and Therapy, 32, pp 101-107.

Lykken, D.T., (1995). The Antisocial Personalities. Hillsdale, NJ. Erlbaum.

Lynam, D.R., (1996). Pursuing the Psychopath: Capturing the Fledgling Psychopath in the Nomological Net. Journal of Abnormal Psychology, Vol. 106, No. 3., pp 425-438.

Lynam, D. R., (1997) Early Identification of Chronic Offenders: Who Is the Fledgling Psychopath ? Psychological Bulletin, Vol.120, No.2., pp 209-234.

Lyons-Ruth, K. (1996). Attachment relationships among children with aggressive behaviour problems: The role of disorganized early attachment patterns. Journal of Consulting and Clinical Psychology, Vol. 64, No.1, 64-73.

Lyons-Ruth, K., Alpern, L, & Repacholi (1993). Disorganized infant attachment representation and maternal psychosocial problems as predictors of hostile-aggressive behaviour in the preschool classroom. Child Development, 64, pp 572-585. 23

Lytton, H., (1990). Child and parent effects in boys' conduct disorder: A reinterpretation. Developmental Psychology, 26, pp 683-697.

Maccoby, E.E., (1992). The role of parents in the socialization of children: An historical review. Developmental Psychology, 28, pp 1006-1017.

Marshall, L.M. (1996). The Role of Childhood Experiences in Psychopathy. Unpublished Ph.D Thesis. Glasgow Caledonian University.

Marshall, L.M. & Cooke, D.J. (1998). The childhood experiences of psychopaths: A retrospective study of familial and societal factors. Journal of Personality Disorders, 13(3) pp 211-225.

Maziade, M., Caperca, P., Laplante, D., Bouderault, M., Thiverge, J., Cote, R., & Boutin, P. (1985). Value of difficult temperament among 7 year olds in the general population for predicting psychiatric diagnosis at age 12. American Journal of Psychiatry, 142, pp 943-946.

McCord, J., (1979). Some child-rearing antecedents of criminal behaviour in adult men. Journal of Personality and Social Psychology, 37, pp 1477-1486.

McMahon, R.J., & Estes, A.M., (1997). Conduct Problems. In E. J. Mash and R.A. Barkley. Assessment of Childhood Disorders. pp 130-193, 3rd Edition. Guilford Press. London.

Mealey, L., (1995). The sociobiology of sociopathy: An integrated evolutionary model. Behavioural and Brain Sciences. 18, pp 523-599.

Miller, P., & Eiseberg, N., (1988). The relation of empathy to aggressive and externalizing/antisocial behaviour. Psychological Bulletin, 103, pp 324-344.

Moffitt, T.E., (1993). "Adolescence-limited" and "life-course persistent" antisocial behaviour: A developmental taxonomy. Psychological Review, 100, pp 674-701.

Moffit , T.E., Caspi, A., Dickson, N., Silva, P., & Stanton, W., (1996). Childhood-onset versus adolescent-onset antisocial conduct problems in males: Natural history from ages 3 to 18 years. Development and Psychopathology, 8, pp 399-424.

O'Brien, B.S., & Frick, P.J. (1996). Reward dominance: Associations with anxiety, conduct problems, and psychopathy in children. Journal of Abnormal Child Psychology, 24, pp 223-240.

Olweus, D. (1979). Stability of Aggressive Reaction Patterson in Males: A Review. Psychological Bulletin, Vol. 86, No. 4, pp. 852-875.

Offord, D.R. & Bennett, K.J., (1994). Conduct Disorders: Long-Term Outcomes and Intervention Effectiveness. Journal of the American Academy of Child and Adolescent Psychiatry. 33, pp 1069 – 1078.

Patterson, G.R., (1982). Coercive Family Process. Eugene, OR: Castalia.

Patterson, G.R., (1986). Performance models for antisocial boys. American Psychologist, 41, pp 432-444.

Patterson, G.R., Reid, J.B., & Dishion, T.J., (1992). Antisocial boys. Eugene, OR: Castalia.

Pettit, G., & Bates, J., (1989),. Family interaction patterns and children's behaviour problems from infancy to 4 years. Developmental Psychology, 24, pp 413-420.

Plutchik, R. (1980). Emotion: A Psychoevolutionary Synthesis. Harper & Row.

Psychological Corporation (1999). The Wechsler Abbreviated Scale of Intelligence. Psychological Corporation: San Antonio.

Quay, H.C., (1999). Classification of the Disruptive Behaviour Disorders. In H.C. Quay & A.E. Hogan (Eds) Handbook of Disruptive Behaviour Disorders. Kluwer Academic/Plenum Publishers. New York.

Quay, H.C.., (1986). Classification. In H.C. Quay & J.S. Werry (Eds), Psychopathological Disorders of Childhood. 3rd edition. pp 1-42. Wiley: New York.

Richard, B.A., & Dodge, K.A, (1982). Social maladjustment and problem solving in school-aged children. Journal of Consulting and Clinical Psychology, 50, pp 226-233.

Richters, J.E. (1992). Depressed mothers as informants about their children. A critical review of the evidence for distortion. Psychological Bulletin, 112 (3), pp 485-499.

Robins, L.N., (1996). Deviant children grown up: A sociological and psychiatric study of sociopathic personality. Baltimore, MD: Williams & Wilkins.

Robson, C. (1990). Experiment, design and statistics in psychology. An Introduction. 2nd Ed. Penguin Books. London.

Rothbart, M.K. & Bates, J.E. (1998). Temperament, In Eisenberg and Damon (eds): The Handbook of Child Psychology, 5th ed. Vol. 3, Social, Emotional and Personality Development. New York. NY. Wiley, pp.105-176.

Rothbaum, F., & Weisz, J.R. (1994). Parental caregiving and child externalizing behaviour in non-clinical samples: A meta-analysis. Psychological Bulletin, Vol. 116, No. 1, pp 55-74.

Ruma, P.P., Burke, R.V., & Thompson, R.W. (1996). Group parent training: Is it effective for children of all ages ? Behaviour Therapy, 27, pp 159-169.

Sanson, A., & Prior, (1999). Temperament and Behavioural Precursors to Oppositional Defiant Disorder and Conduct Disorder. In H.C. Quay & A. Hogan (Eds). Handbook of Disruptive Behaviour Disorders. Kluwer Academic/Plenum Publishers. New York.

Sanson, A., Oberklaid, F., Pedlow, R., & Prior, M., (1991). Risk indicators: Assessment of infancy predictors of pre-school behavioural maladjustment. Journal of Child Psychology and Psychiatry, 32, pp 609-626.

Schoenwald, S.K., & Hengeller, S.W., (1999). Treatment of Oppositional Defiant Disorder and Conduct Disorder. In H.C. Quay and A. E. Hogan. Handbook of Disruptive Behaviour Disorders. Kluwer Academic/Plenum Publishers. New York.

Schonfeld, I.S., Shaffer, D., O'Conner, (1998) Conduct disorder and cognitive functioning: testing three causal hypotheses. Child Development, 59, pp 993-1007.

Serkeitch, W., & Dumas, J., (1996). The effectiveness of behavioural parent training to modify antisocial behaviour in children: A meta-analysis. Behaviour Therapy, 27, pp 171-186.

Shaffer, D., Fisher, P., Piacentini, J.C., Schwaub-Stone, M., & Wicks, J. (1991). National Institute of Mental Health Diagnostic Interview Schedule for Children, Version 2.3. New York: Columbia University.

Shelton, K.K., Frick, P.J., & Wootton, J. (1996). Assessment of parenting practices in families of elementary school-age children. Journal of Clinical Child Psychology, 25, pp 317-329.

Shiner, R.L., (1998). How shall we speak of children's personalitities in middle childhood ? A Preliminary Taxonomy. Psychological Bulletin, Vol. 124, No.3. pp 308-332.

Sheeber, L.B & Johnson, J.H (1994). Evaluation of a Temperament-Focused, Parent-Training Program. Journal of Clinical Child Psychology, Vol. 23., No. 3., pp. 249 – 259.

Snyder, J. & Patterson, G., (1987). Family interaction and delinquent behaviour. N H.C. Quay (1987). Handbook of Juvenile Delinquency. Wiley. New York.

Steel, R.G.D., Torrie, J.H., & Dickey., D.A., (1997). Principles and Procedures of Statistics: A Biometrical Approach (3rd Ed.). WCB Mcgraw-Hill.

Tangney, J.P., (1991). Moral affect: The good, the bad and the ugly. Journal of Personality and Social Psychology, 61, pp 598-607.

Tangney, J.P. (1995). Recent Advances in the Empirical Study of Shame and Guilt. American Behavioural Scientist. Vol. 38, No. 8, pp 1132-1145.

Tangney, J.P. (1996). Conceptual and methodological issues in the assessment of shame and guilt. Behaviour Research and Therapy, 34, pp 741-754.

Tangney, J.P. (unpublished). The Test of Self-Conscious Affect for Children. George Washington University.

Tangney, J.P. (unpublished). The Socialization of Moral Affect for Parents of Children. George Washington University.

Thomas, A., & Chess, S., (1977). Temperament and Development. New York: Brunner/Mazel: New York. .

Waddell, C., Lipman, E., & Offord, D., (1999). Conduct disorder: Practice parameters for assessment, treatment and prevention. Canadian Journal of Psychiatry, 4 (Supplement 2), pp 35-40.

Webster-Stratton, C., & Herbert, M., (1988). Maternal depression and its relationship to life stress, perceptions of child behaviour problems, parenting behaviours, and child conduct problems. Journal of Abnormal Child Psychology, Vol. 16, No. 3. pp 299 – 315.

Webster-Stratton, C., & Herbert, M. (1995). Troubled Families. Problem Children. Working with Parents: A Collaborative Process. Wiley. Chichester.

West, D., & Farrington, D.P. (1973). Who Becomes Delinquent? London. Heinemann.

White, S.H., (1965). Evidence for a hierarchical arrangement of learning processes. In L.P. Lipsitt & C.C. Spiker, (Eds). Advances in child development and behaviour (pp 187-220). New York: Academic Press.

Wootton, J.M., Frick, P.J., Shelton. K.K., & Silverthorn, P (1997). Ineffective Parenting and Childhood Conduct Problems: The Moderating Role of Callous-Unemotional Traits. Journal of Consulting and Clinical Psychology, Vol., 65, No. 2, pp 301-308.

Zahn-Waxler, C., & Radke-Yarrow, M. (1990). The origins of empathic concern. Motivation and Emotion, Vol. 14, No. 2.pp 107- 131.

Zahn-Waxler, C., Radke-Yarrow, M., & King, R.A., (1979). Child-rearing and children's pro-social initiations towards victims of distress. Child Development, 50, pp 319-330.

Zahn-Waxler, C., & Robinson, J.,(1995). Empathy and guilt: Early origins of feelings of responsibility. In J.P.Tangney & K.W. Fischer (Eds), Self-Conscious Emotions: Shame, Guilt, Embarrassment, and Pride pp 143-173. New York: Guilford.

Zoccolillo, M., (1992). Co-occurrence of Conduct Disorder and its adult outcomes with depressive and anxiety disorders: A review. Journal of the American Academy of Child and Adolescent Psychiatry, 31, pp 547-556.

APPENDIX 1

The Parent Form of the Child Behaviour Checklist

Achenbach, (1993)

low is a list of items that describe children and youth. For each item that describes your child ***now or within the past 6 months***, please circle *2* if the item is ***very true or often true*** of your child. Circle the *1* if the item is ***somewhat or sometimes true*** of your child. If the item is ***not e*** of your child, circle the ***0***. Please answer all items as well as you can, even if some do not seem to apply to your child.

Please Print

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

2 1. Acts too young for his/her age
2 2. Allergy (describe): _____
_____
2 3. Argues a lot
2 4. Asthma
2 5. Behaves like opposite sex
2 6. Bowel movements outside toilet
2 7. Bragging, boasting
2 8. Can't concentrate, can't pay attention for long
2 9. Can't get his/her mind off certain thoughts; obsessions (describe): _____
_____
2 10. Can't sit still, restless, or hyperactive
2 11. Clings to adults or too dependent
2 12. Complains of loneliness
2 13. Confused or seems to be in a fog
2 14. Cries a lot
2 15. Cruel to animals
2 16. Cruelty, bullying, or meanness to others
2 17. Day-dreams or gets lost in his/her thoughts
2 18. Deliberately harms self or attempts suicide
2 19. Demands a lot of attention
2 20. Destroys his/her own things
2 21. Destroys things belonging to his/her family or others
2 22. Disobedient at home
2 23. Disobedient at school
2 24. Doesn't eat well
2 25. Doesn't get along with other kids
2 26. Doesn't seem to feel guilty after misbehaving
2 27. Easily jealous
2 28. Eats or drinks things that are not food—*don't* include sweets (describe): _____
_____
2 29. Fears certain animals, situations, or places, other than school (describe): _____
_____
2 30. Fears going to school

0 1 2 31. Fears he/she might think or do something bad
0 1 2 32. Feels he/she has to be perfect
0 1 2 33. Feels or complains that no one loves him/her
0 1 2 34. Feels others are out to get him/her
0 1 2 35. Feels worthless or inferior
0 1 2 36. Gets hurt a lot, accident-prone
0 1 2 37. Gets in many fights
0 1 2 38. Gets teased a lot
0 1 2 39. Hangs around with others who get in trouble
0 1 2 40. Hears sounds or voices that aren't there (describe): _____
_____
0 1 2 41. Impulsive or acts without thinking
0 1 2 42. Would rather be alone than with others
0 1 2 43. Lying or cheating
0 1 2 44. Bites fingernails
0 1 2 45. Nervous, highstrung, or tense
0 1 2 46. Nervous movements or twitching (describe):
_____
_____
0 1 2 47. Nightmares
0 1 2 48. Not liked by other kids
0 1 2 49. Constipated, doesn't move bowels
0 1 2 50. Too fearful or anxious
0 1 2 51. Feels dizzy
0 1 2 52. Feels too guilty
0 1 2 53. Overeating
0 1 2 54. Overtired
0 1 2 55. Overweight

56. Physical problems ***without known medical cause:***
0 1 2 a. Aches or pains (*not* stomach or headaches)
0 1 2 b. Headaches
0 1 2 c. Nausea, feels sick
0 1 2 d. Problems with eyes (*not* if corrected by glasses) (describe): _____
0 1 2 e. Rashes or other skin problems
0 1 2 f. Stomachaches or cramps
0 1 2 g. Vomiting, throwing up
0 1 2 h. Other (describe): _____
_____

Please see other side

Please Print

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0 1 2 57. Physically attacks people
0 1 2 58. Picks nose, skin, or other parts of body (describe): _____
_____
0 1 2 59. Plays with own sex parts in public
0 1 2 60. Plays with own sex parts too much
0 1 2 61. Poor school work
0 1 2 62. Poorly coordinated or clumsy
0 1 2 63. Prefers being with older kids
0 1 2 64. Prefers being with younger kids
0 1 2 65. Refuses to talk
0 1 2 66. Repeats certain acts over and over, compulsions (describe): _____
_____
0 1 2 67. Runs away from home
0 1 2 68. Screams a lot
0 1 2 69. Secretive, keeps things to self
0 1 2 70. Sees things that aren't there (describe):
_____
_____
0 1 2 71. Self-conscious or easily embarrassed
0 1 2 72. Sets fires
0 1 2 73. Sexual problems (describe): _____
_____
_____
0 1 2 74. Showing off or clowning
0 1 2 75. Shy or timid
0 1 2 76. Sleeps less than most kids
0 1 2 77. Sleeps more than most kids during day and/or night (describe): _____
_____
0 1 2 78. Smears or plays with bowel movements
0 1 2 79. Speech problem (describe): _____
_____
0 1 2 80. Stares blankly
0 1 2 81. Steals at home
0 1 2 82. Steals outside the home
0 1 2 83. Stores up things he/she doesn't need (describe): _____
_____
0 1 2 84. Strange behavior (describe): _____
_____
0 1 2 85. Strange ideas (describe): _____
_____
0 1 2 86. Stubborn, sullen, or irritable
0 1 2 87. Sudden changes in mood or feelings
0 1 2 88. Sulks a lot
0 1 2 89. Suspicious
0 1 2 90. Swearing or obscene language
0 1 2 91. Talks about killing self
0 1 2 92. Talks or walks in sleep (describe): _____
_____
0 1 2 93. Talks too much
0 1 2 94. Teases a lot
0 1 2 95. Temper tantrums or hot temper
0 1 2 96. Thinks about sex too much
0 1 2 97. Threatens people
0 1 2 98. Thumb-sucking
0 1 2 99. Too concerned with neatness or cleanli
0 1 2 100. Trouble sleeping (describe): _____
_____
0 1 2 101. Truancy, skips school
0 1 2 102. Underactive, slow moving, or lacks ener
0 1 2 103. Unhappy, sad, or depressed
0 1 2 104. Unusually loud
0 1 2 105. Uses alcohol or drugs for nonmedical purposes (describe): _____
_____
0 1 2 106. Vandalism
0 1 2 107. Wets self during the day
0 1 2 108. Wets the bed
0 1 2 109. Whining
0 1 2 110. Wishes to be of opposite sex
0 1 2 111. Withdrawn, doesn't get involved with oth
0 1 2 112. Worries

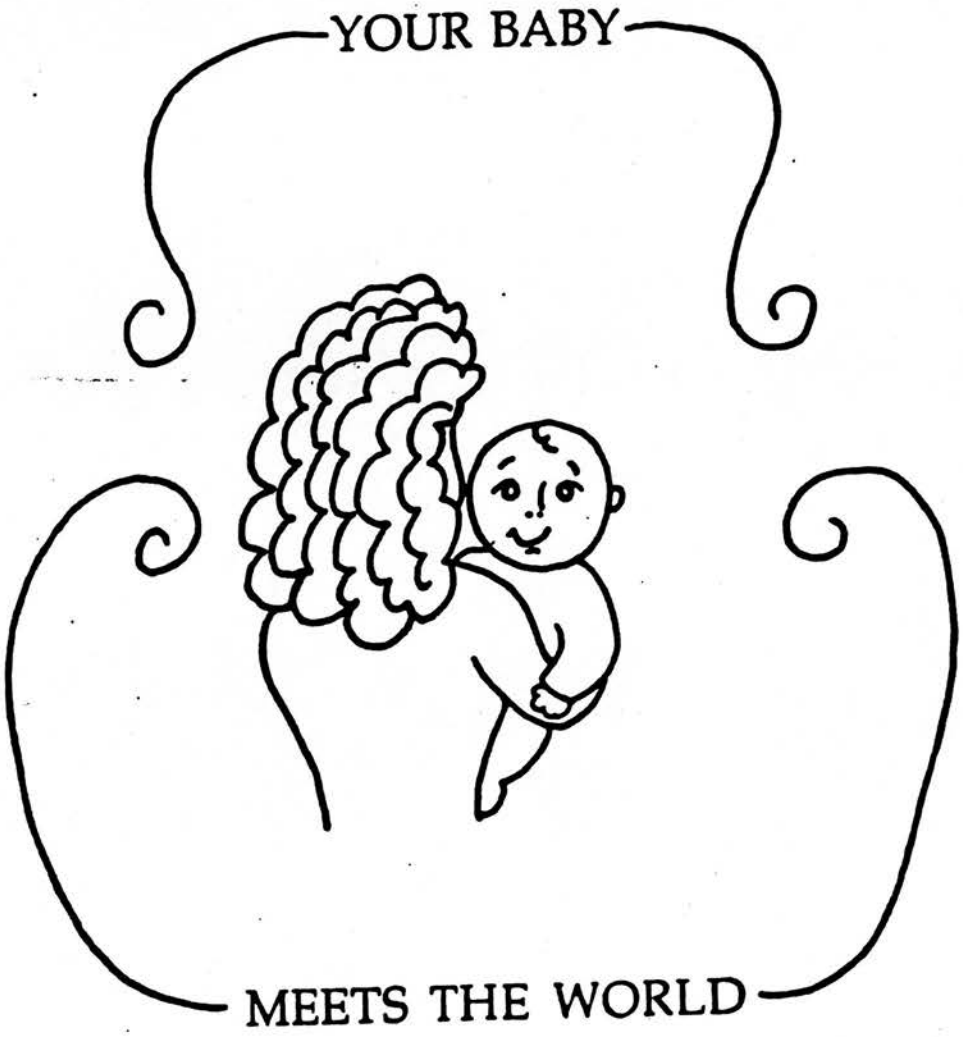
PLEASE BE SURE YOU HAVE ANSWERED ALL ITEMS.

UNDERLINE ANY YOU ARE CONCERNED AE

APPENDIX 2

Pictorial Assessment of Temperament

(PAT; Clarke-Stewart et. al., 2000)



When your child was a baby ?

INSTRUCTIONS:

In this section there are a number of situations that babies often go through.

Different babies react differently to these situations.

Here we show cartoon pictures of three different reactions to each situation.

Please think about how YOUR child reacted to these situations WHEN HE WAS A BABY.

Then pick which of the three cartoon examples is MOST LIKE how your child USUALLY BEHAVED

Was your child like

Baby X

Baby Y

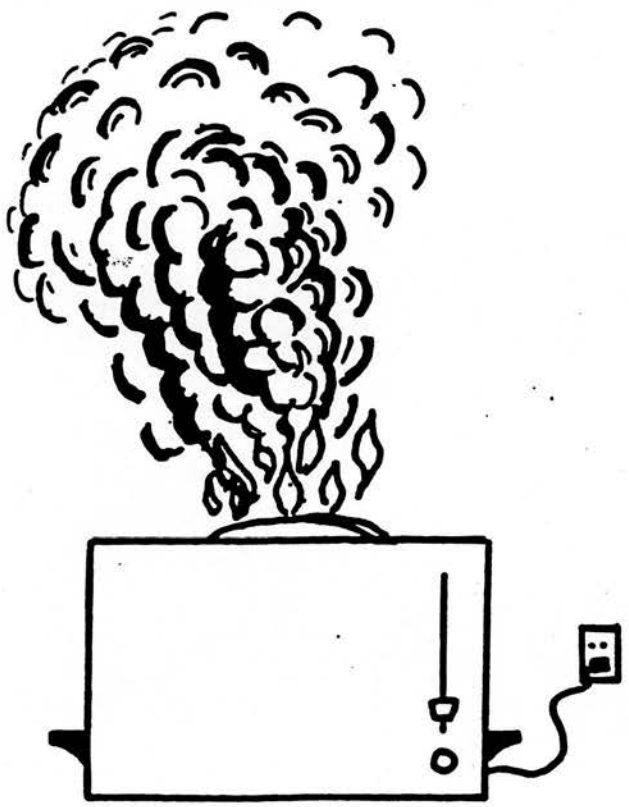
Or

Baby z

Circle you answer on each page

SITUATION 1:

The Burning Toast

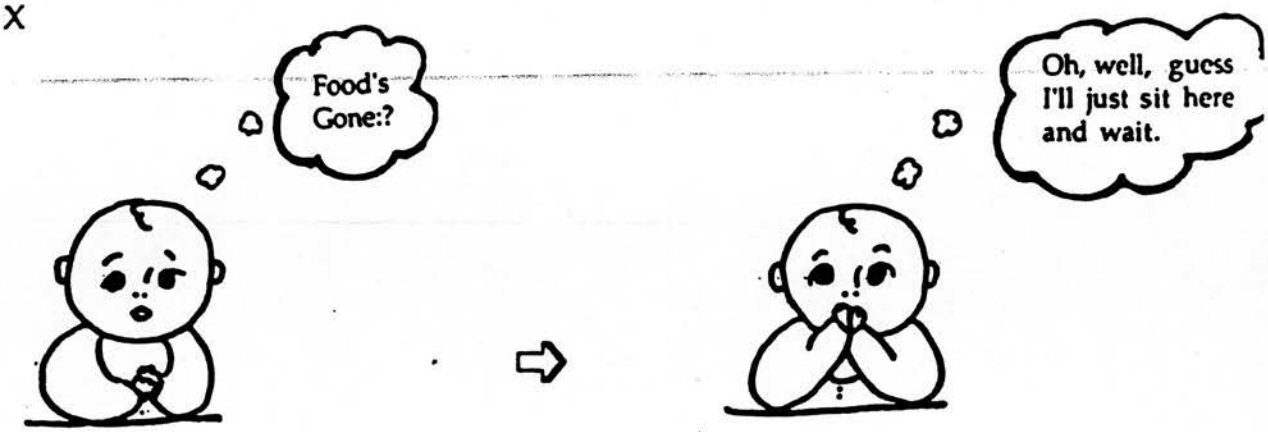


You are feeding baby, and after a few minutes, an emergency suddenly arises! The toast is burning! You have to interrupt baby's feeding.

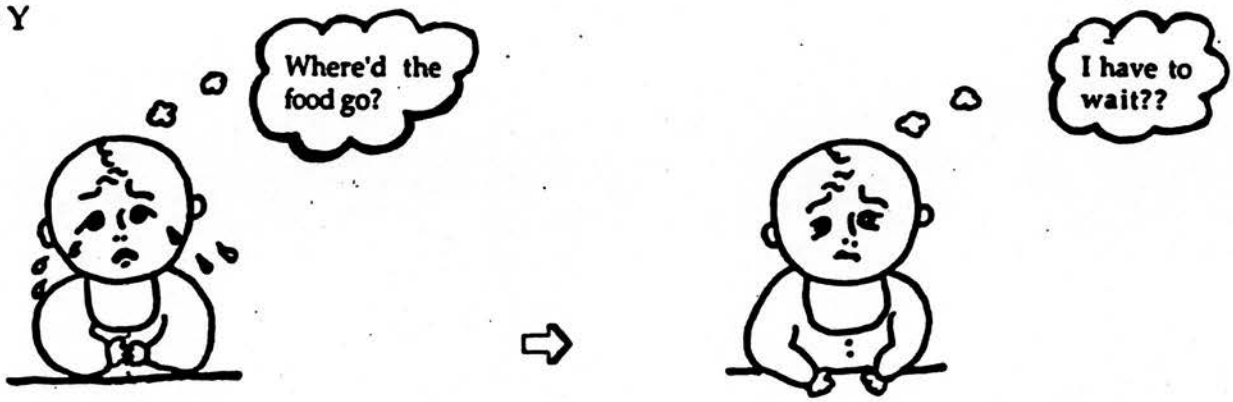
How does baby react?

AT FIRST... ⇨ A BIT LATER...

Baby X



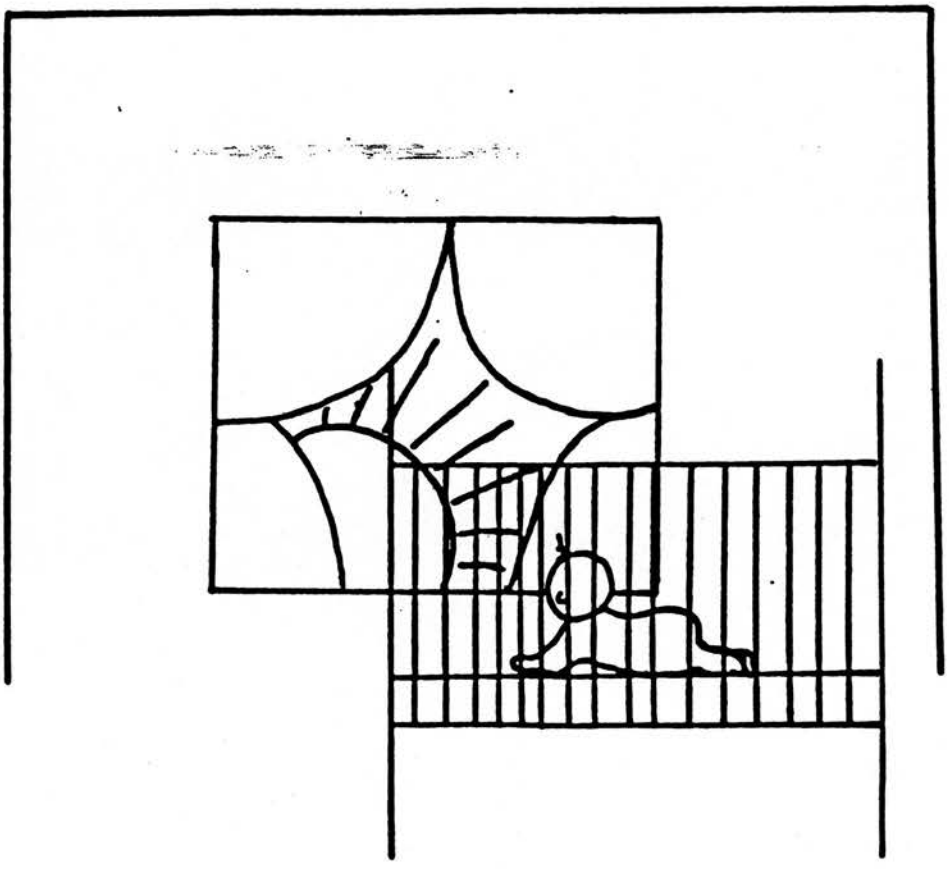
Baby Y



Baby Z

SITUATION 2:

Waking Up



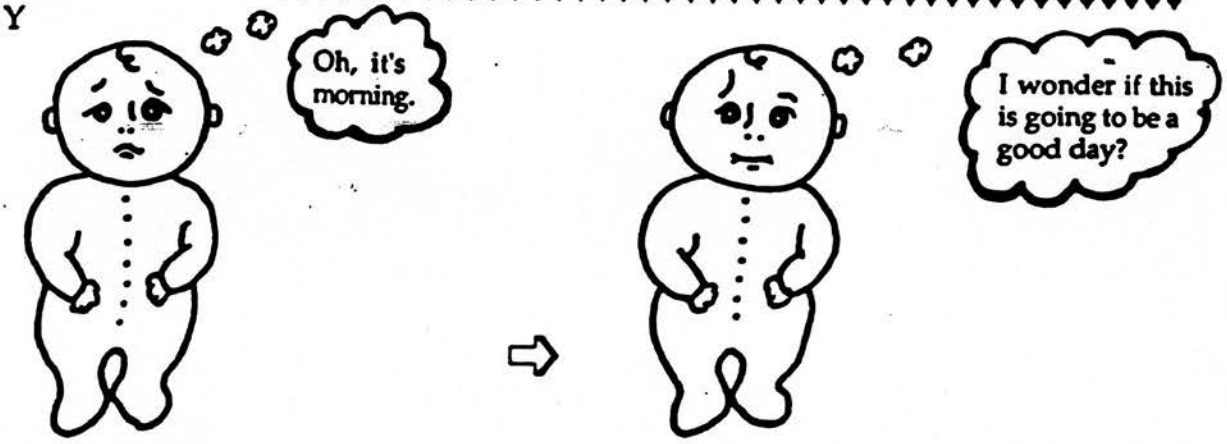
When baby first wakes up in the morning...

How does baby react?

AT FIRST... ⇨ A BIT LATER...

Baby X

Baby Y



Baby Z

SITUATION 3:

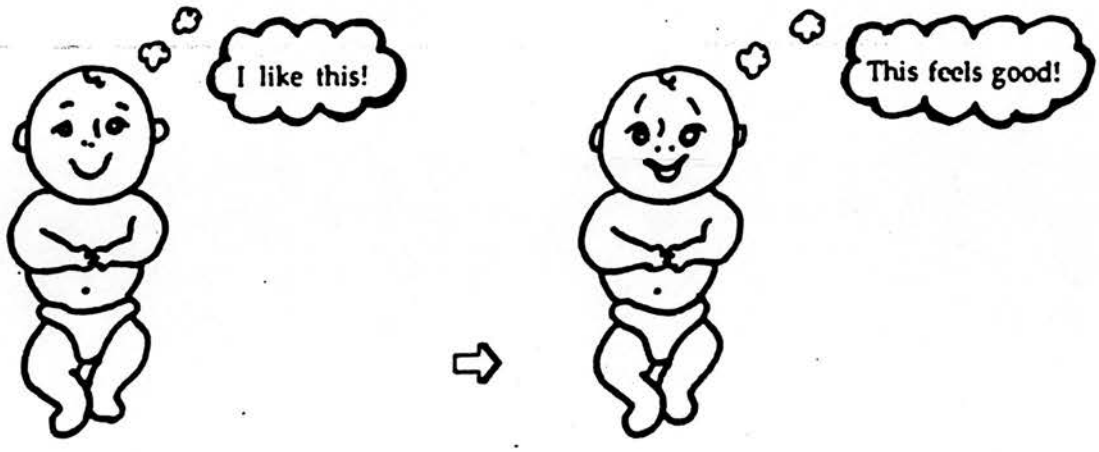
The Face Washing

When you wash baby's face with a wet washcloth...

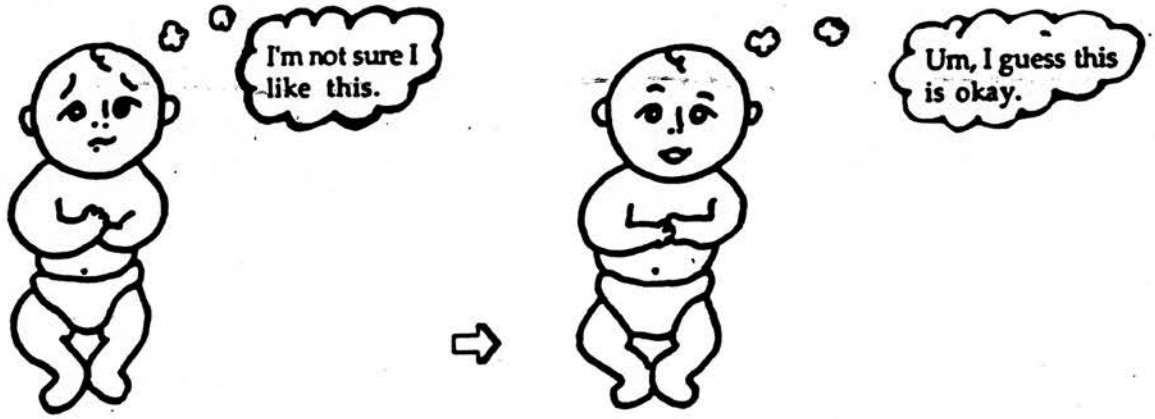
How does baby react?

AT FIRST... ⇨ A BIT LATER...

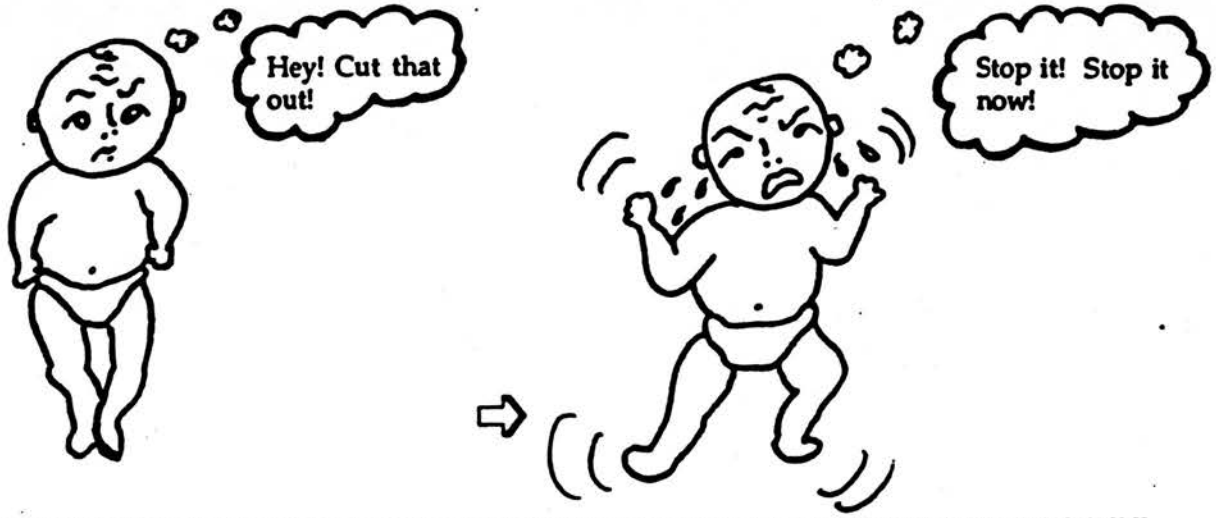
Baby X



Baby Y

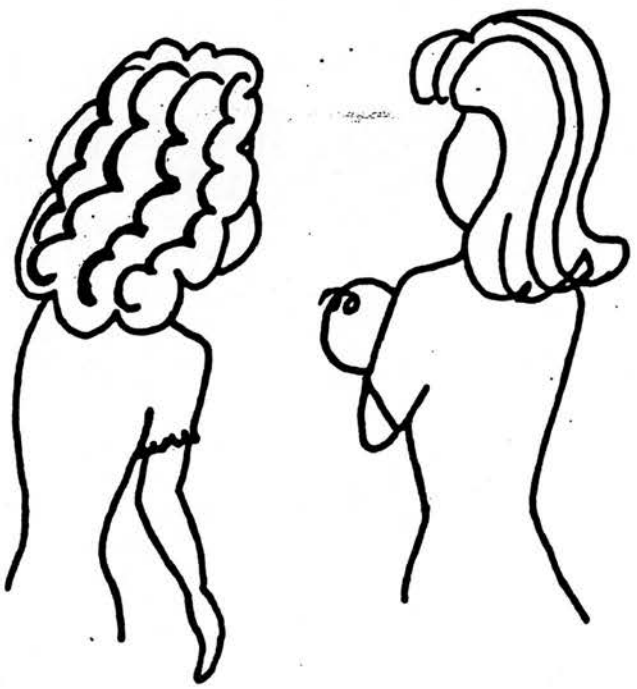


Baby Z



SITUATION 4:

In a Stranger's Arms

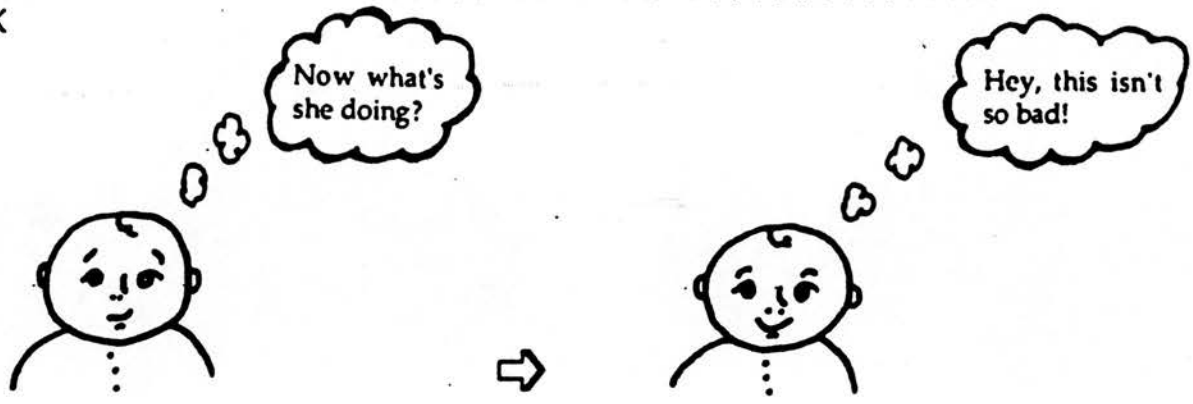


You give baby to a stranger to hold while you are busy.

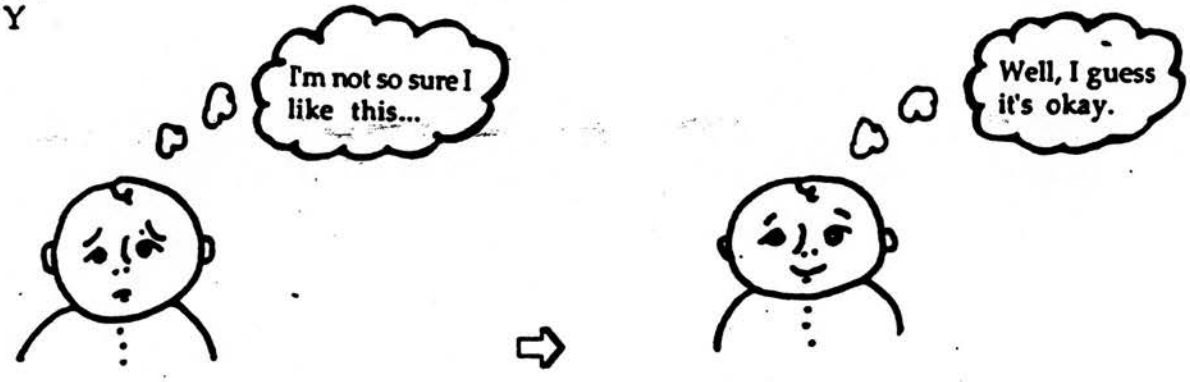
How does baby react?

AT FIRST... ⇨ A BIT LATER...

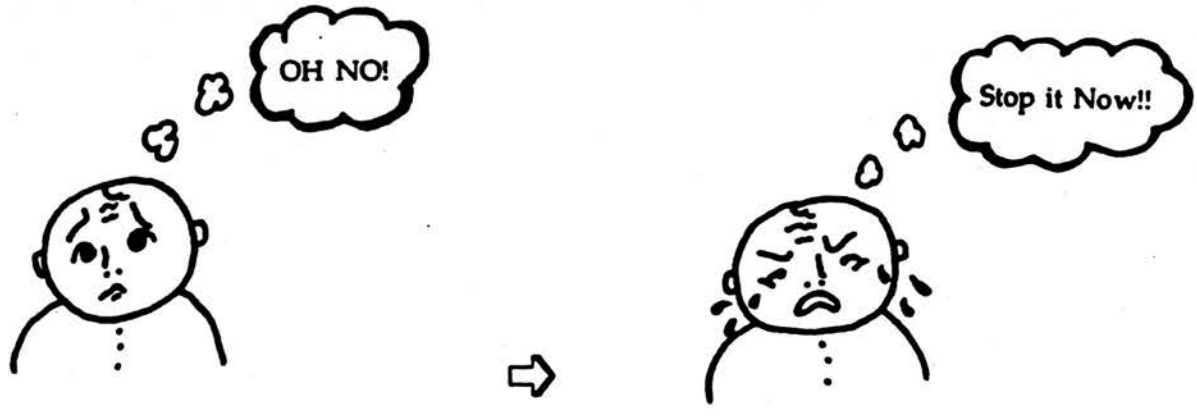
Baby X



Baby Y

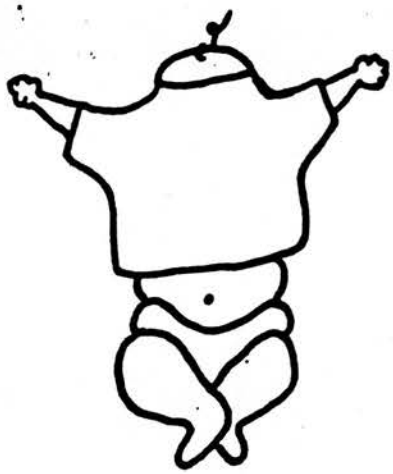


Baby Z



SITUATION 6:

Getting Dressed

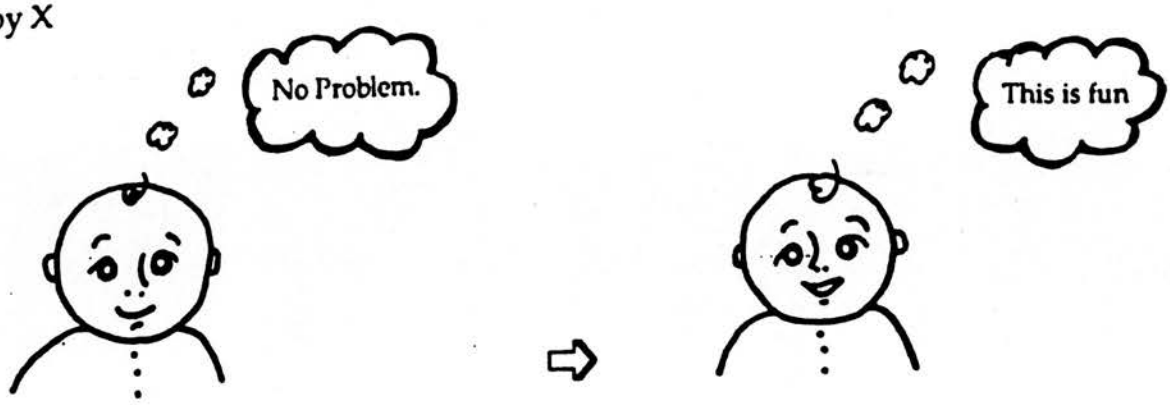


When you put a shirt on over baby's head...

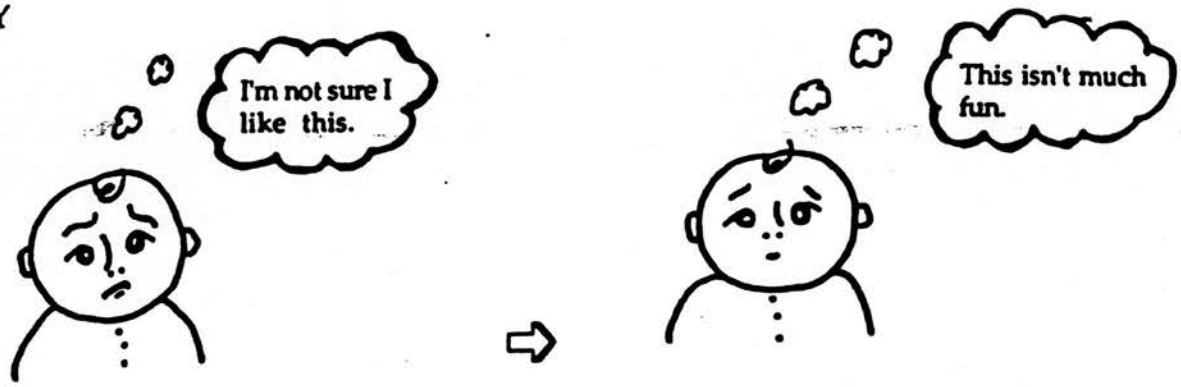
How does baby react?

AT FIRST... ⇨ A BIT LATER...

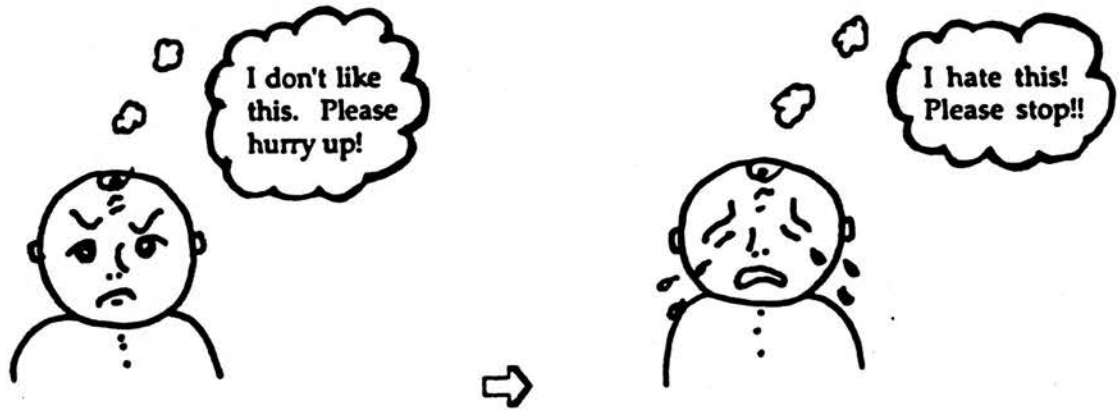
Baby X



Baby Y

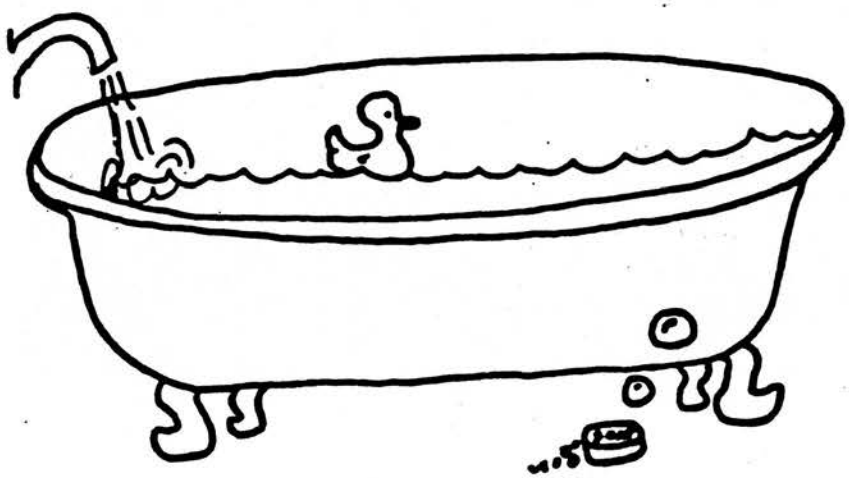


Baby Z



SITUATION 7:

The Bath

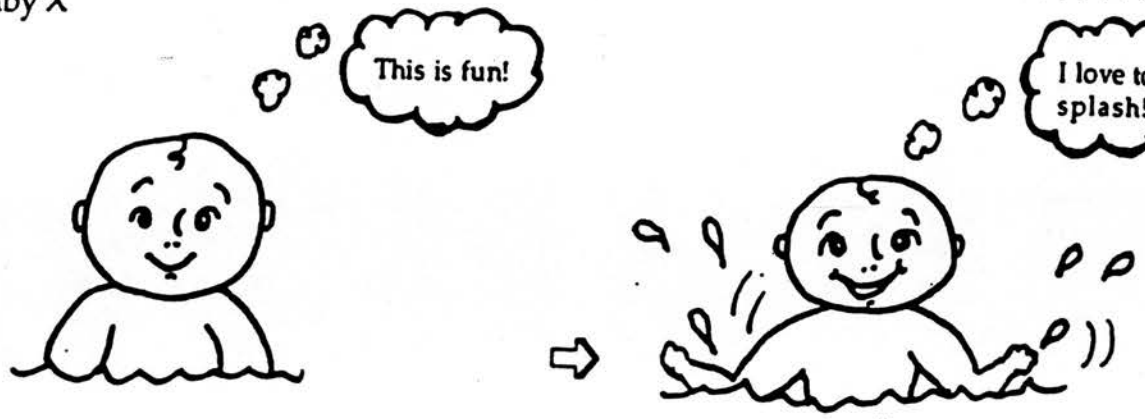


When you give baby a bath, in warm water...

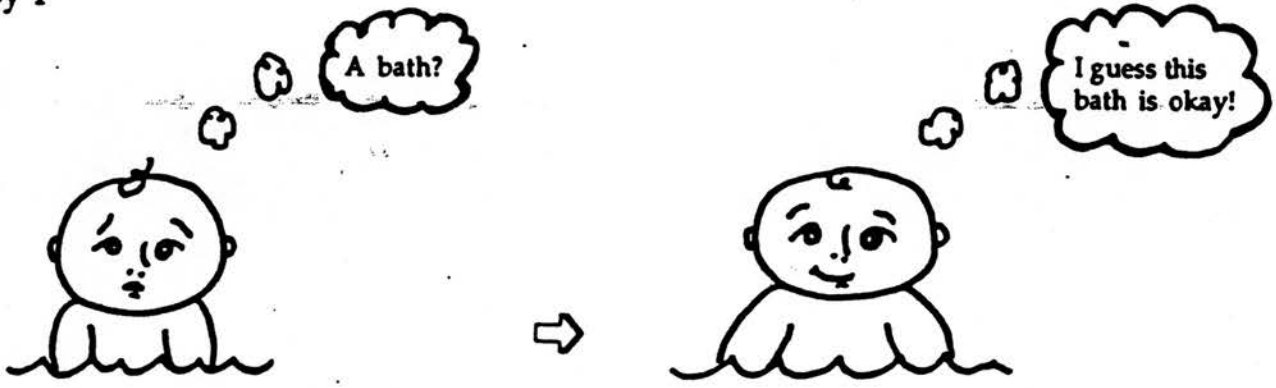
How does baby react?

AT FIRST... ⇨ A BIT LATER...

Baby X



Baby Y



Baby Z

SITUATION 8:

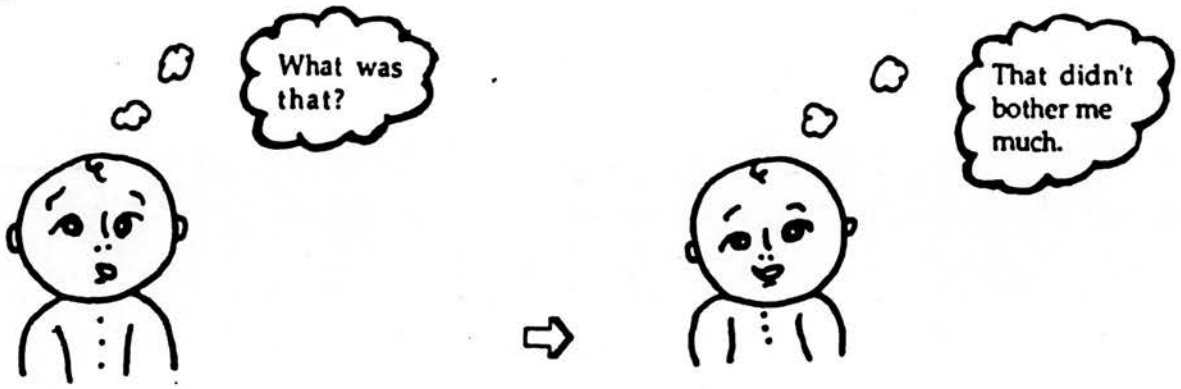
The Big Bang

Baby hears a sudden loud noise!

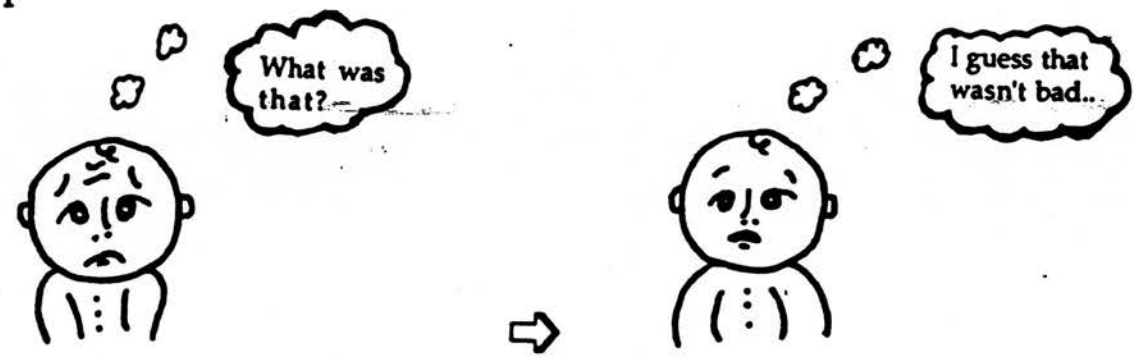
How does baby react?

AT FIRST... ⇨ A BIT LATER...

Baby X



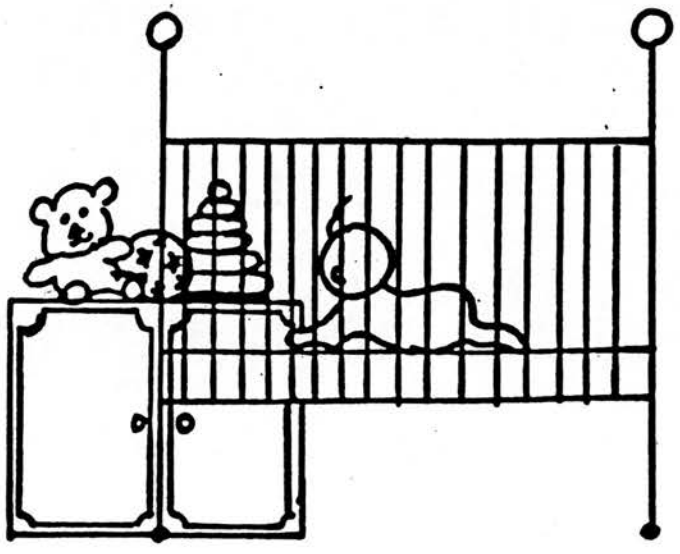
Baby Y



Baby Z

SITUATION 9:

Alone at Last

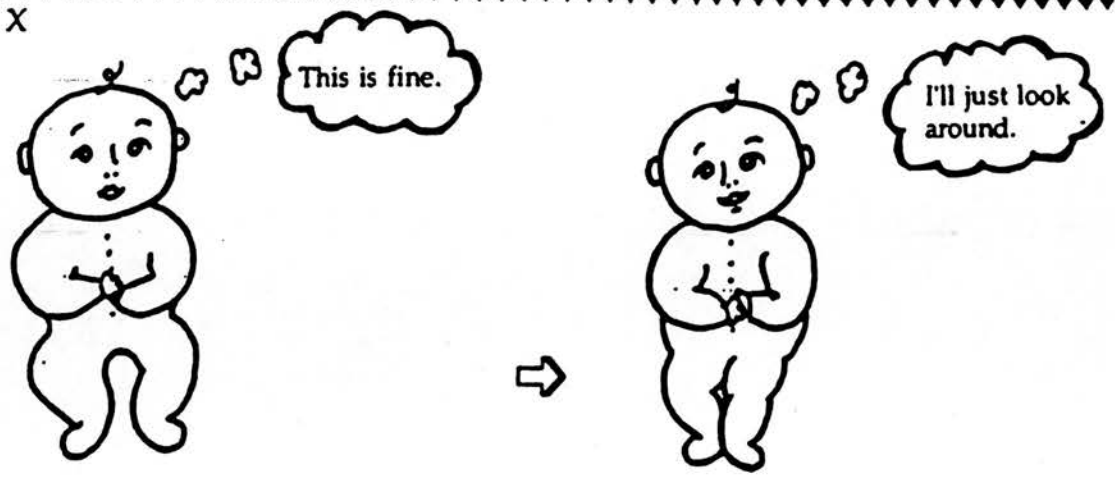


When you put baby down for a nap while he or she is still awake and you leave baby alone in the crib...

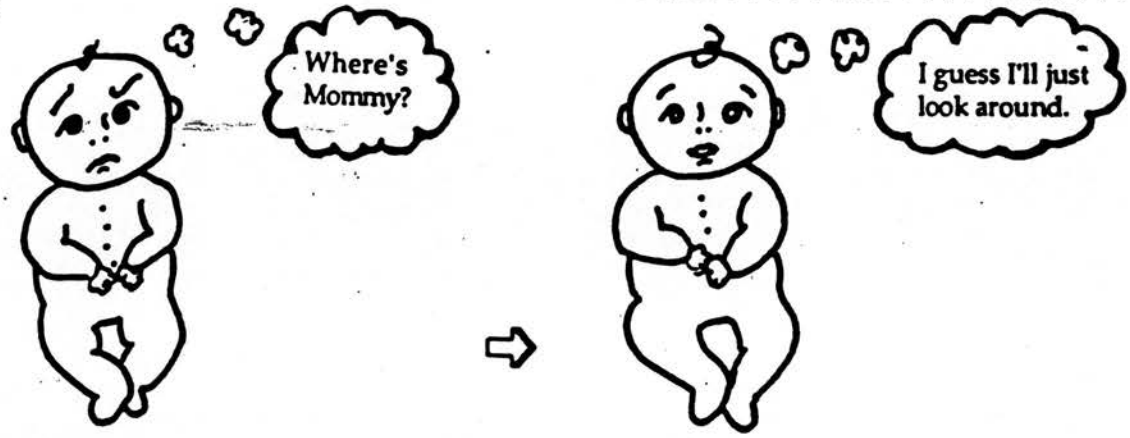
How does baby react?

AT FIRST... ⇨ A BIT LATER...

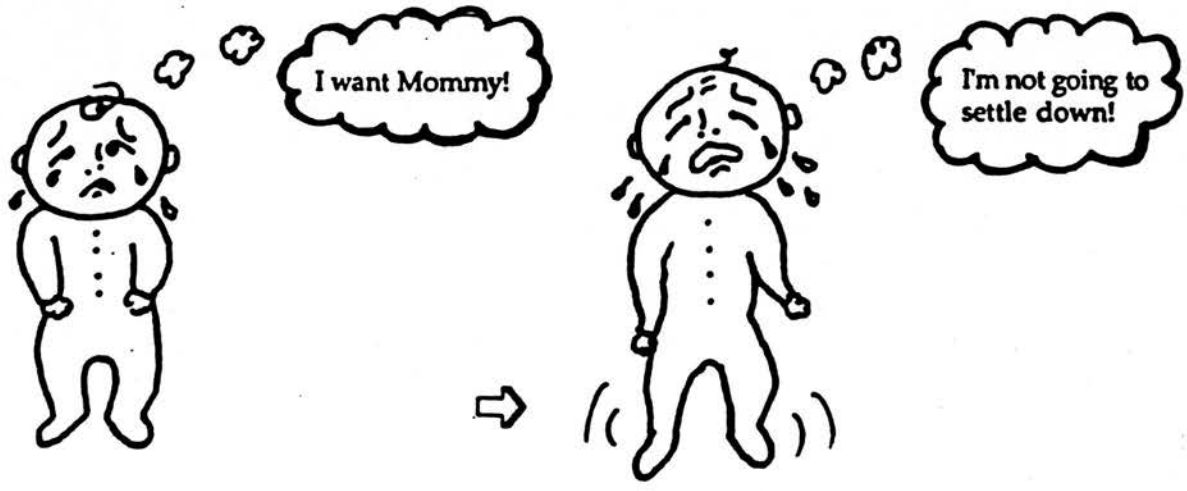
Baby X



Baby Y

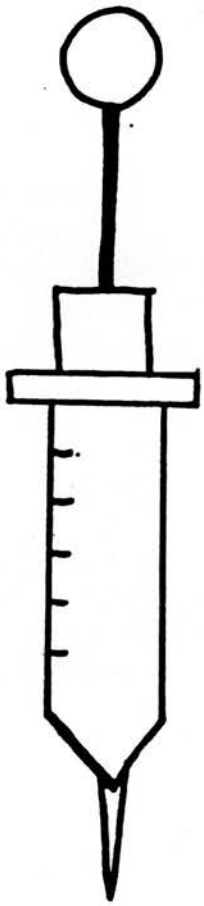


Baby Z



SITUATION 10:

The Needle

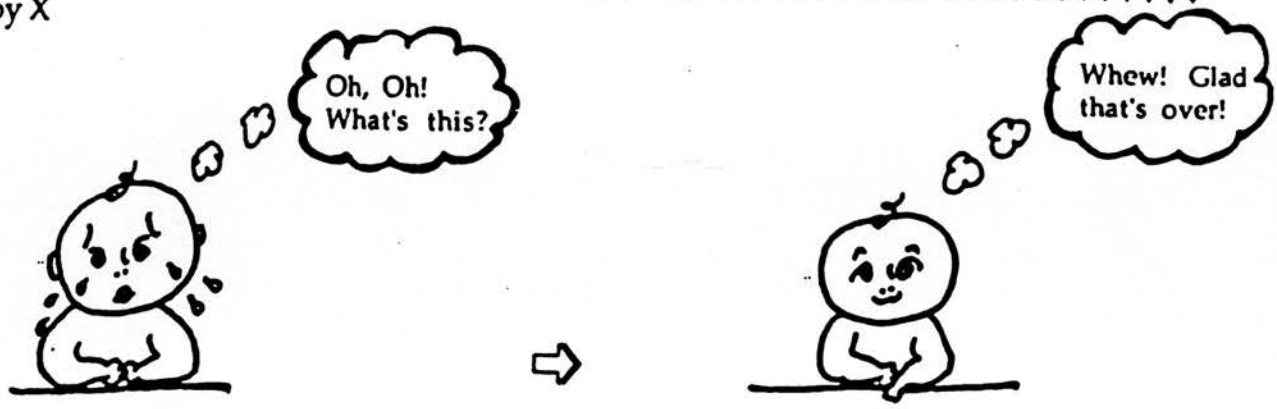


The doctor gives baby an injection.

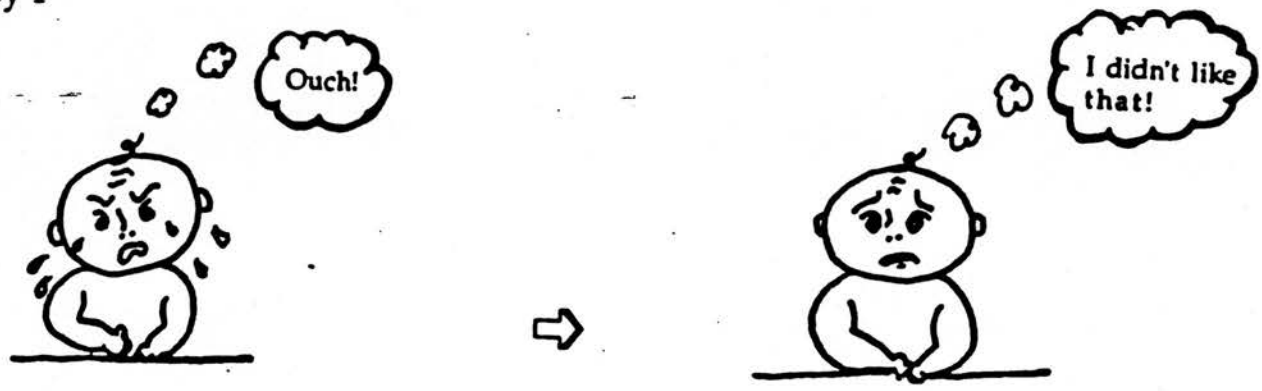
How does baby react?

AT FIRST... ⇨ A BIT LATER...

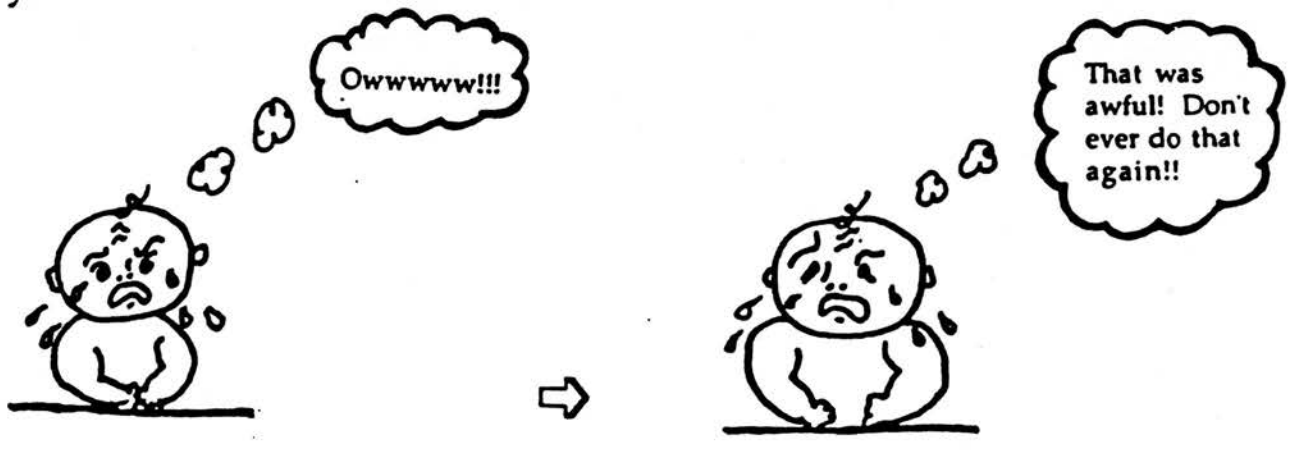
Baby X



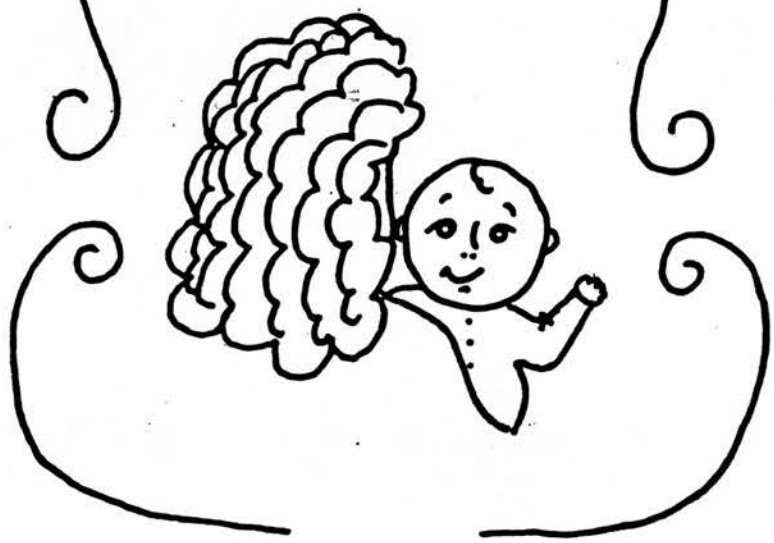
Baby Y



Baby Z



THE END



APPENDIX 3

The Differential Emotions Scale as adapted for children and adolescents

Kotsch et. al., (1982).

Differential Emotions Scale - III

SAY TO THE CHILD:

" I am going to ask you some questions about your feelings. There are no right or wrong answers to any of these questions. Can you tell me how often you.."……

Never	*Hardly ever*	*Sometimes*	*Often*	*Very often*
0	*1*	*2*	*3*	*4*

1. Feel like what you're doing or watching is interesting [ ]
2. Feel glad about something [ ]
3. Feel surprised, like when something suddenly happens you had no idea would happen [ ]
4. Feel unhappy, blue, downhearted [ ]
5. Feel like screaming at somebody or banging on something [ ]
6. Feel like something stinks, puts a bad taste in your mouth [ ]
7. Feel like somebody is a low-life, not worth the time of day [ ]
8. Feel scared, uneasy, like something might harm you [ ]
9. Feel ashamed to be seen, like you want to disappear [ ]
10. Feel regret, sorry about something you did [ ]
11. Feel so interested in what you're doing, caught up, engrossed in it [ ]
12. Feel happy [ ]
13. Feel amazed, like you can't believe what's happened, it was so unusual [ ]
14. Feel sad and gloomy, almost like crying [ ]
15. Feel angry, irritated, annoyed [ ]
16. Feel disgusted, like something is sickening [ ]
17. Feel like somebody is a "good for nothing" [ ]
18. Feel fearful, like you're in danger, very tense [ ]
19. Feel embarrassed [ ]
20. Feel like you did something wrong [ ]

21. Feel alert, kind of curious about something [ ]
22. Feel joyful, like everything is going your way, everything is great [ ]
23. Feel like you feel when something unexpected happens [ ]
24. Feel discouraged, like you can't make it, nothing is going right [ ]
25. Feel so mad you're about to blow up [ ]
26. Feel like things are so rotten they could make you sick [ ]
27. Feel like you are better than somebody [ ]
28. Feel afraid [ ]
29. Feel shy, like you want to hide [ ]
30. Feel like you should be blamed for something [ ]

APPENDIX 4

The Index of Empathy for Children and Adolescents

Bryant (1982)

Index of empathy for children and adolescents

SAY TO THE CHILD

"I am going to ask [more] questions about your feelings. Tell me whether these statements describe you or not.... Say "YES" if they DO describe you or you agree with what is said, and say "NO" if they DO NOT describe you or you do not agree with what is said/"

1. It makes me sad to see a girl who can't find anyone to play with yes/no
2. People who kiss and hug in public are silly yes/no
3. Boys who cry because they are happy are silly yes/no
4. I really like to watch people open presents, even when I don't get a present myself yes/no
5. Seeing a boy who is crying makes me feel like crying yes/no
6. I get upset when I see a girl being hurt yes/no
7. Even when I don't know why someone is laughing, I laugh too yes/no
8. Sometimes I cry when I watch TV yes/no
9. Girls who cry because they are happy are silly yes/no
10. It's hard for me to see why someone else get upset yes/no
11. I get upset when I see an animal being hurt yes/no
12. It makes me sad to see a boy who can't find anyone to play with yes/no
13. Some songs make me so sad I feel like crying yes/no
14. I get upset when I see a boy being hurt yes/no
15. Grown-ups sometimes cry even when they have nothing to be sad about yes/no
16. It's silly to treat dogs and cats as though they have feelings like people yes/no
17. I get mad when I see a classmate pretending to need help from the teacher all the time yes/no
18. Kids who have no friends probably don't want any yes/no
19. Seeing a girl who is crying makes me feel like crying yes/no
20. I think it is funny that some people cry during a sad movie or when they read a sad book yes/no
21. I am able to eat all my biscuits or sweets even when I see someone

looking at me wanting one yes/no

22. I don't feel upset when I see a classmate being punished by a teacher for not obeying school rules yes/no

Total affirmative responses = _____

APPENDIX 5

The Test of Self-Conscious Moral Affect for Children

Tangney (unpublished)

Here are some situations that might happen to you once in a while. And here are some different ways that people might think or feel.

Really imagine that you are in the situation now and imagine how you might think or feel. Then read each statement. **Put an X in the circle** to describe how likely the statement would be true for you. The largest circle means that you are very likely to think or feel that way and the smallest circle means that you are not at all likely to respond that way.

Sample

You wake up very early one morning on a school day.

	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) I would eat breakfast right away.	o	O	○	◯	◯
b) I would check over my homework before I left for school.	o	O	○	◯	◯
c) I would not feel like getting out of bed.	o	O	○	◯	◯

Remember that everyone has good days and bad days. Everyone sometimes does things that they wouldn't normally do. **There are no right or wrong answers to these questions.**

1) You are on playground patrol duty and report/tell on 3 kids.

	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) I'd worry about what would happen to them.	o	o	o	o	o
b) I'd think, "They deserved it."	o	o	o	o	o
c) I'd think "I'm a tattle-tale."	o	o	o	o	o
d) I would feel good about myself.	o	o	o	o	o
e) I would feel I did a good job.	o	o	o	o	o

2) **Your aunt is giving a big party. You are carrying drinks to people and you spill one all over the floor.**

	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) I should have been more careful.	o	o	o	o	o
b) My aunt wouldn't mind that much.	o	o	o	o	o
c) I would run upstairs to be away from everybody.	o	o	o	o	o
d) The tray was too heavy.	o	o	o	o	o

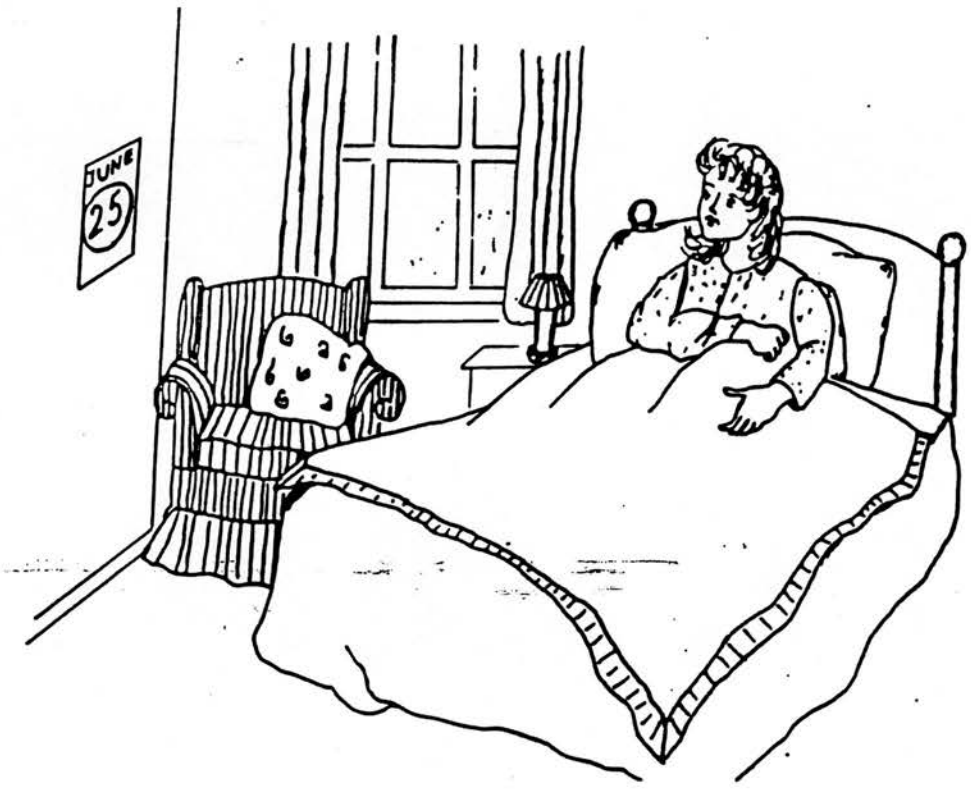
3) **You get a test back in school and you didn't do well.**

	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) I'd feel that I should have done better. I should have studied more.	o	o	o	o	o
b) I'd feel stupid.	o	o	o	o	o
c) It's only one test.	o	o	o	o	o
d) The teacher must have graded it wrong.	o	o	o	o	o

4) **You stop playing all the time with one friend to play with someone who doesn't have any friends.**

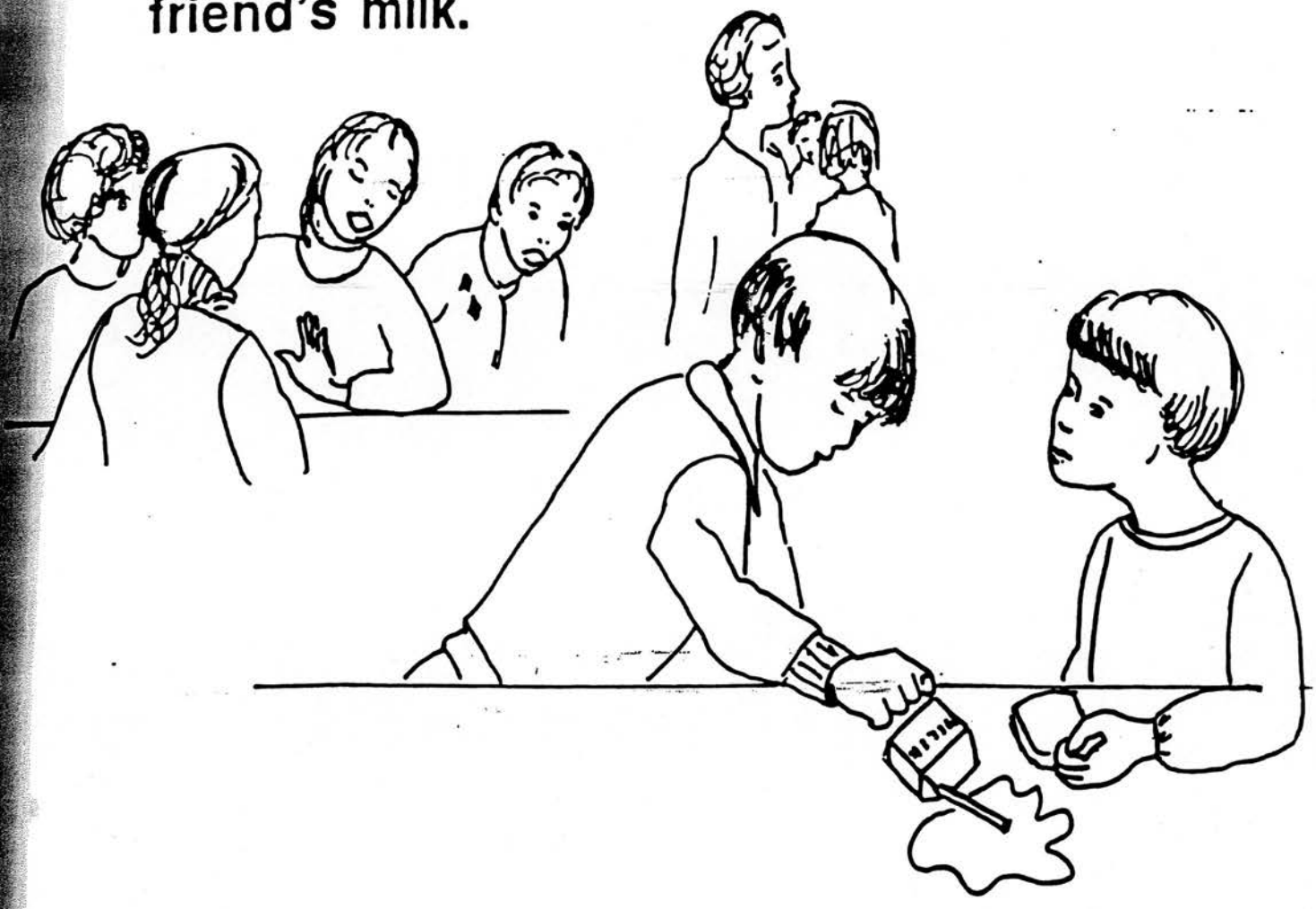
	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) I'd feel bad because it's not fair to forget about one friend when you make another.	o	o	o	o	o
b) I did something good.	o	o	o	o	o
c) That new kid had lots of fun games that I wanted to play.	o	o	o	o	o
d) My other friends might think I'm weird, playing with somebody who doesn't have any friends.	o	o	o	o	o
e) I'm a really nice person to play with someone who didn't have any friends.	o	o	o	o	o

5) You wake up one morning and remember it's your mother's birthday. You forgot to get her something.



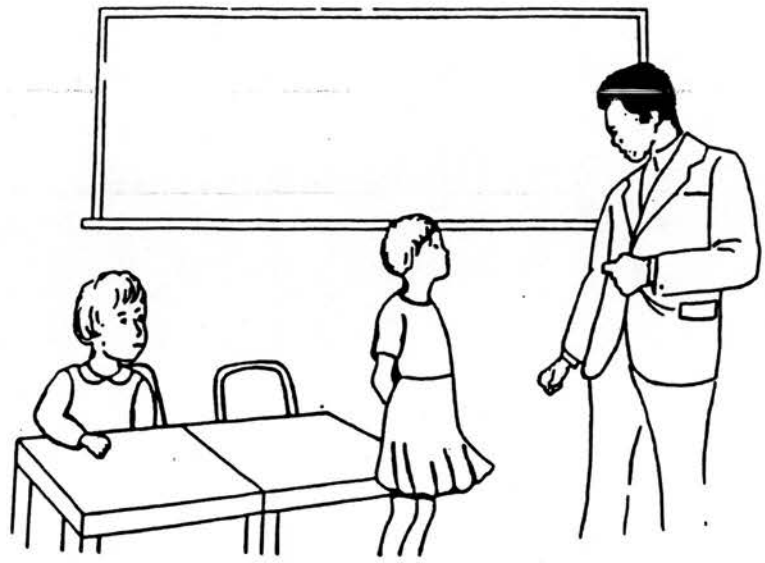
	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) It's not the gift that matters. All that really matters is that I care.	o	O	O	O	O
b) After everything she's done for me, how could I forget her birthday.	o	O	O	O	O
c) I'd feel irresponsible and thoughtless.	o	O	O	O	O
d) Someone should have reminded me.	o	O	O	O	O

6) **You trip in the cafeteria and you spill your friend's milk.**



	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) I'd be thinking that everyone is watching me and laughing.	o	o	o	o	o
b) I'd feel sorry, very sorry. I should have watched where I was going.	o	o	o	o	o
c) I wouldn't feel bad because milk doesn't cost very much.	o	o	o	o	o
d) I couldn't help it. The floor was slippery.	o	o	o	o	o

7) **You were talking in class and your friend got blamed. You go to the teacher and tell him the truth.**



	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) The teacher should have gotten the facts straight before he blamed my friend.	o	o	o	o	o
b) I would feel like I always get people in trouble.	o	o	o	o	o
c) I did a very good thing by telling the truth.	o	o	o	o	o
d) I'd be proud of myself that I'm able to tell the teacher something like that.	o	o	o	o	o
e) I'm the one who should get in trouble. I shouldn't have been talking in the first place.	o	o	o	o	o

8) **You accidently break your aunt's vase. Your aunt scolds your little cousin instead of you.**

	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) If I didn't tell the the truth, something inside would bother me.	o	o	o	o	o
b) No one is going to like me if my cousin tells them.	o	o	o	o	o
c) She only scolded him; it's no big deal.	o	o	o	o	o
d) She should find out what happened before she starts yelling.	o	o	o	o	o

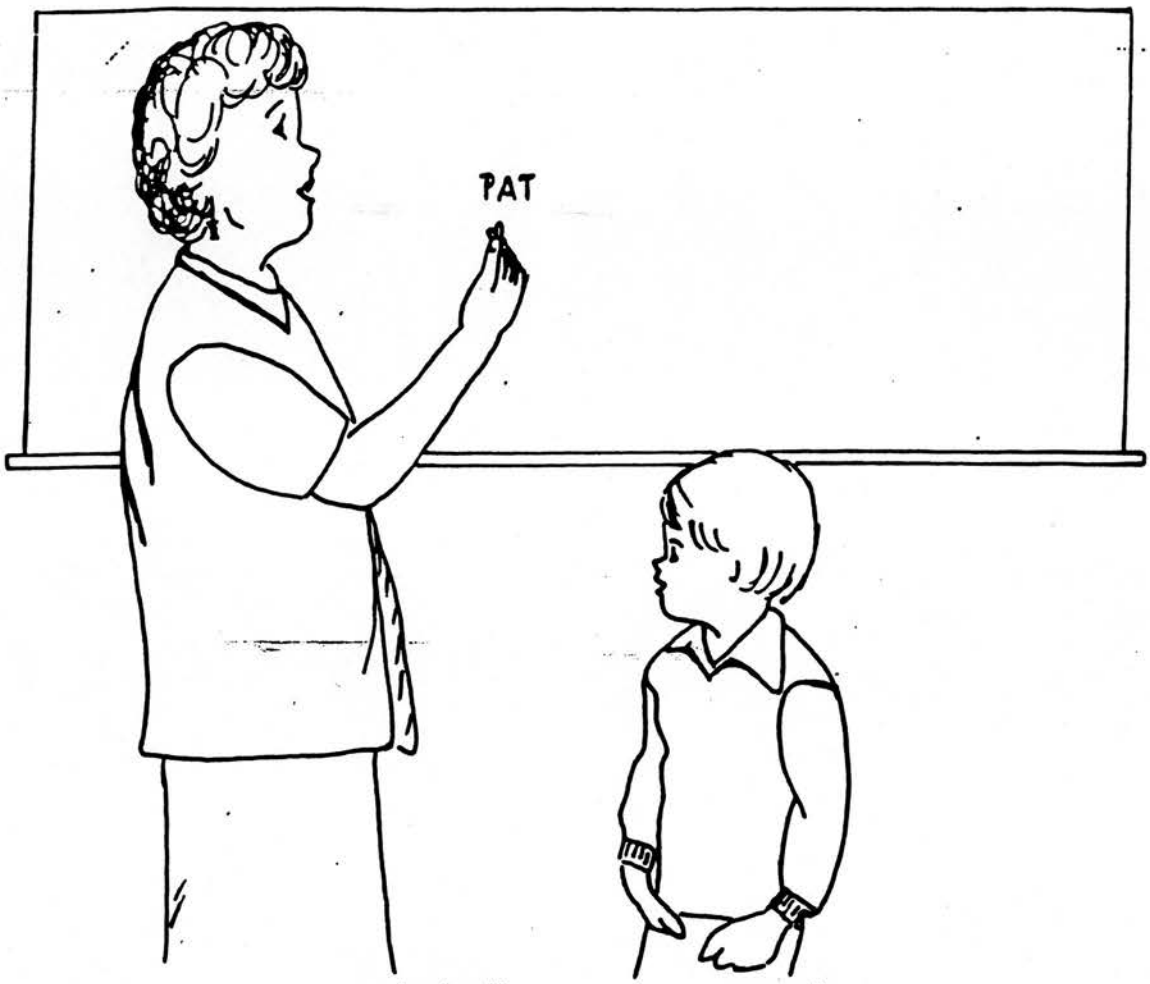
9) **Your report card isn't as good as you wanted. You show it to your mother when you get home.**

	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) Everyone gets bad grades once in a while.	o	o	o	o	o
b) I really didn't deserve the grades, it wasn't my fault.	o	o	o	o	o
c) Now that I got a bad report card, I'm worthless.	o	o	o	o	o
d) I should listen to everything the teacher says and study harder.	o	o	o	o	o

10) **You and your best friend get into an argument at school.**

	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) It was my friend's fault.	o	o	o	o	o
b) We do it all the time and we always make up.	o	o	o	o	o
c) I would feel sorry and feel like I shouldn't have done it.	o	o	o	o	o
d) I'd probably feel real lousy about myself.	o	o	o	o	o

11) Your teacher writes your name on the board fo
chewing gum in class.

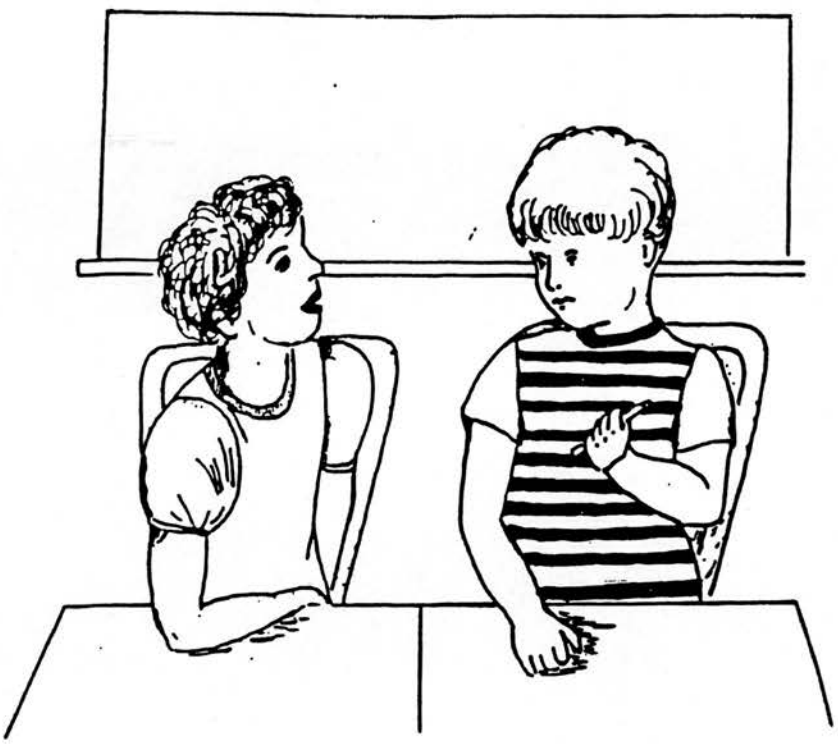


	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) That my teacher was unfair to write my name on the board.	o	o	o	o	o
b) I'd slide down in my chair, embarrassed.	o	o	o	o	o
c) If I was chewing gum it would serve me right because it's a rule.	o	o	o	o	o
d) I wouldn't mind. People at school chew gum all the time.	o	o	o	o	o

12) You get your report card and tell your best friend you got a special award. You find out your friend did not.

	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) It's my friend's fault for not making the honor roll.	o	o	o	o	o
b) I'd feel bad because I was bragging about it and I made my friend feel bad.	o	o	o	o	o
c) I'd feel good about myself for being such a good student.	o	o	o	o	o
d) I'd be proud of my grades.	o	o	o	o	o
e) My friend might think I'm a show-off.	o	o	o	o	o

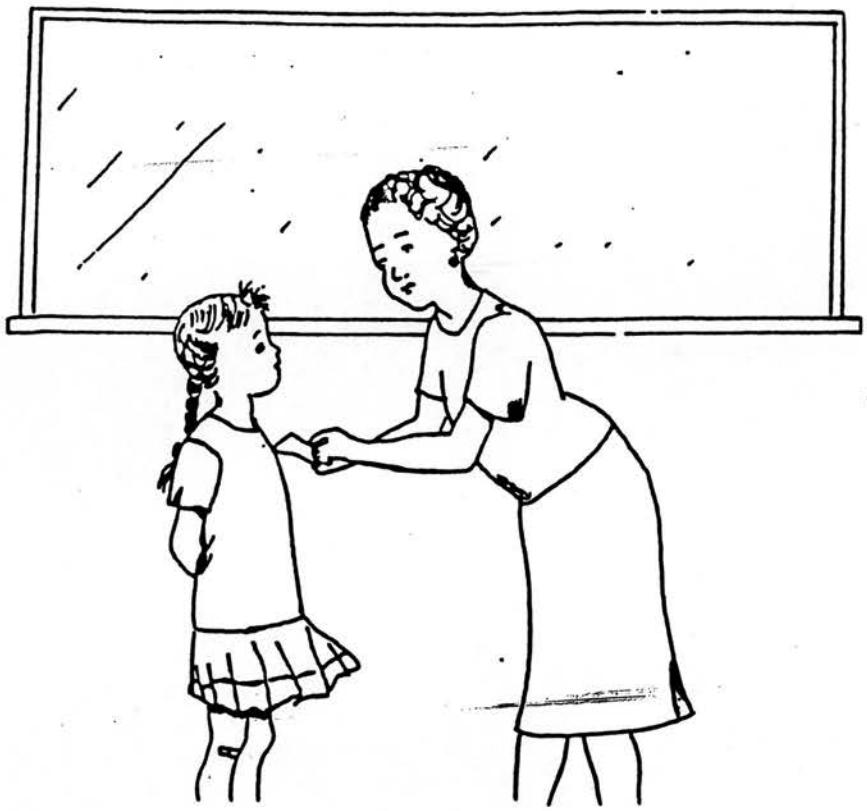
13) **You and your friend are talking in class and you get in trouble.**



	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) That I shouldn't have talked in the first place. I deserve to get in trouble.	o	o	o	o	o
b) We were only whispering.	o	o	o	o	o
c) The teacher is mean and unfair.	o	o	o	o	o
d) I'd feel like everyone in the class was looking at me and they were about to laugh.	o	o	o	o	o

14) **You invite a friend to sleep over. But when you ask your mother she says no.**

	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) Since I already asked my friend, I'd feel kind of embarrassed.	o	o	o	o	o
b) My mom's not fair.	o	o	o	o	o
c) I'd feel sorry I asked my friend before I asked my mom. Now my friend will be disappointed.	o	o	o	o	o
d) My friend can always sleep over another time.	o	o	o	o	o



	not at all likely	unlikely	maybe (half & half)	likely	very likely
a) I'd be wondering how the other students felt - the ones that didn't get picked.	o	o	o	o	o
b) My friends will think I'm a teacher's pet.	o	o	o	o	o
c) I must have done a good job to have the teacher pick me.	o	o	o	o	o
d) I'd feel good about myself like I'm special.	o	o	o	o	o
e) The teacher must really like me.	o	o	o	o	o

APPENDIX 6

The Psychopathy Screening Device

Frick & Hare (in press)

PSD

Child's Name: _____ ID #: _____

_____

Completed by: (circle one) Mother Father

Instructions: Please read each statement and decide how well it describes your child. Mark your answers by circl each statement. Please do not leave any statement unrated.

	Not at all True	Sometimes True	Definite True
Blames others for his/her mistakes	0	1	2
Engages in illegal activities	0	1	2
Is concerned about how he/she does at school work	0	1	2
Acts without thinking of the consequences	0	1	2
His/her emotions seem shallow and not genuine	0	1	2
Lies easily and skillfully	0	1	2
Is good at keeping promises	0	1	2
Brags excessively about his/her abilities, accomplishments or possessions	0	1	2
Gets bored easily	0	1	2
Uses or "cons" others to get what he/she wants	0	1	2
Teases or makes fun of other people	0	1	2
Feels bad or guilty when he/she does something wrong	0	1	2
Engages in risky or dangerous activities	0	1	2
Can be charming at times, but in ways that seem insincere	0	1	2
Becomes angry when corrected or punished	0	1	2

	Not at all True	Sometimes True	Definite True
) Seems to think that *he/she* is better than other people	0	1	2
) Does not plan ahead or leaves things to the "last minute"	0	1	2
) Is concerned about the feelings of others	0	1	2
) Does not show feelings or emotions	0	1	2
) Keeps the same friends	0	1	2

APPENDIX 7

The Alabama Parenting Questionnaire

Frick (1991a)

The University of New Orleans
Alabama Parenting Questionnaire (APQ)
(Parent Form)

_____ _____

Parent Completing Form(Circle one): Mother Father Other: _____

nstructions: The following are a number of statements about your family. Please rate each item as to how often TYPICALLY occurs in your home. The possible answers are Never (1), Almost Never (2), Sometimes (3), Often (4), Always (5). PLEASE ANSWER ALL ITEMS.

	Never	Almost Never	Sometimes	Often	Always
. You have a friendly talk with our child.	1	2	3	4	5
. You let your child know when e/she is doing a good job with omething.	1	2	3	4	5
. You threaten to punish your child nd then do not actually punish m/her.	1	2	3	4	5
. You volunteer to help with ecial activities that your child is volved in (such as sports, boy/girl couts, church youth groups).	1	2	3	4	5
. You reward or give something tra to your child for obeying you behaving well.	1	2	3	4	5
. Your child fails to leave a note or let you know where he/she is oing.	1	2	3	4	5
. You play games or do other fun ings with your child.	1	2	3	4	5
. Your child talks you out of being nished after he/she has done omething wrong.	1	2	3	4	5

	Never	Almost Never	Sometimes	Often	Always
9. You ask your child about his/her day in school.	1	2	3	4	5
10. Your child stays out in the evening past the time he/she is supposed to be home.	1	2	3	4	5
11. You help your child with his/her homework.	1	2	3	4	5
12. You feel that getting your child to obey you is more trouble that it's worth.	1	2	3	4	5
13. You compliment your child when he/she does something well.	1	2	3	4	5
14. You ask your child what his/her plans are for the coming day.	1	2	3	4	5
15. You drive your child to a special activity.	1	2	3	4	5
16. You praise your child if he/she behaves well.	1	2	3	4	5
17. Your child is out with friends you don't know.	1	2	3	4	5
18. You hug or kiss your child when he/she has done something well.	1	2	3	4	5
19. Your child goes out without a set time to be home.	1	2	3	4	5
20. You talk to your child about his/her friends.	1	2	3	4	5
21. Your child is out after dark without an adult with him/her.	1	2	3	4	5

	Never	Almost Never	Sometimes	Often	Always
2. You let your child out of a unishment early (like lift estrictions earlier than you riginally said).	1	2	3	4	5
3. Your child helps plan family ctivities.	1	2	3	4	5
4. You get so busy that you forget here your child is and what he/she doing.	1	2	3	4	5
5. Your child is not punished when e/she has done something wrong.	1	2	3	4	5
6. You attend PTA meetings, rent/teacher conferences, or other eetings at your child's school.	1	2	3	4	5
7. You tell your child that you like when he/she helps out around the use.	1	2	3	4	5
8. You don't check that your child mes home at the time she/he was pposed to.	1	2	3	4	5
9. You don't tell your child where u are going.	1	2	3	4	5
10. Your child comes home from hool more than an hour past the ne you expect him/her.	1	2	3	4	5
11. The punishment you give your ld depends on your mood.	1	2	3	4	5
12. Your child is at home without ult supervision.	1	2	3	4	5

	Never	Almost Never	Sometimes	Often	Always
33. You spank your child with your hand when he/she has done something wrong.	1	2	3	4	5
34. You ignore your child when he/she is misbehaving.	1	2	3	4	5
35. You slap your child when he/she has done something wrong.	1	2	3	4	5
36. You take away privileges or money from your child as a punishment.	1	2	3	4	5
37. You send your child to his/her room as a punishment.	1	2	3	4	5
38. You hit your child with a belt, switch, or other object when he/she has done something wrong.	1	2	3	4	5
39. You yell or scream at your child when he/she has done something wrong.	1	2	3	4	5
40. You calmly explain to your child why his/her behavior was wrong when he/she misbehaves.	1	2	3	4	5
41. You use time out (make him/her sit or stand in a corner) as a punishment.	1	2	3	4	5
42. You give your child extra chores as a punishment.	1	2	3	4	5

APPENDIX 8

The Socialisation of Moral Affect for Parents of Children

Tangney (unpublished)

INSTRUCTIONS

Here are some situations that might happen to you and your child, and here are some different ways you may react. Really imagine that you and your child are in the situation now and imagine how you might think, feel, or act. Then read each statement. Put an X in the box to describe how likely the statement would be true for you. *Remember* everyone sometimes does things that they normally wouldn't do. There are no right or wrong answers to these questions".

There are 5 choices –

1. Not at all likely to think, feel or act that way
2. Unlikely to think, feel or act that way
3. Maybe (half and half) would think, feel or act that way
4. Likely to think, feel or act that way
5. Very likely to think, feel or act that way

HERE IS AN EXAMPLE

Your child wakes up very early one morning on a Saturday. How likely would you be to

RESPONSES	*Not at all likely*	*Unlikely*	*Maybe (half and half)*	*Likely*	*Very likely*
1. Get up with him and make him breakfast	X				
2. Tell him to go back to bed				X	
6. Ask him to be very quiet because you are still trying to sleep			X		

----PLEASE ANSWER THE FOLLOWING QUESTIONS IN THE SAME WAY---

1. Your child is getting ready to leave for his first day of the school year. How likely would you be to.....

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very li
1. Say to your child "You know how important it is that you do well in school to make me happy"					
2. Say to your child "I'm proud of you/my boy"					
3. Treat the first day of the school like it was just another morning – you wouldn't make a big deal about it					
4. Say to your child "I'm so proud of the way you're getting ready for your first day of school".					

2. While you are playing a game with your child, you catch him cheating. How likely would you be to....."

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very likel
1. Say to your child , "You are not acting like someone I want to play with and leave the game"					
2. Say to your child "stop cheating this minute or you'll be in BIG trouble					
3. Say to your child "It's not fair to cheat because it doesn't give the other person a chance to win"					
4. Say to your child "What a cheater !, Only bad people cheat"					
5. Say to your child, "You need to say you're sorry for cheating, and play by the rules from now on."					

3. **Your child has a lead part in a school play. When the big night arrives, he does a good job. How likely would you be to....."**

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very likely
1. Say to your child, "You did a wonderful job tonight, and I was very proud of your performance					
2. Take your child home without making a big deal about it					
3. Say to your child, "when I see you up on the stage it makes me so happy to be your parent"					
4. Say to your child "I'm so proud of you I could burst ! You're such a wonderful son"					

4. **Your child asks for a special meal for dinner, which you makes. However, when it is ready, he changes his mind and refuse to eat it. How likely would you be to....."**

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very likely
1. Say to your child, "you asked for this dinner, and now you won't eat it. That's not right."					
2. Say to your child "Don't try to talk to me after what you did, because I have nothing to say to you !."					
3. Say to your child "It makes me feel so bad when you don't eat the dinner I made especially for you"					
4. Say to your child "You're such an ungrateful child"					
5. Give your child a look of disgust, throw the food in the bin and say "Fine don't eat!"					
6. Say to your child, "You are going to sit here at this table until you finish this meal, and I don't care if you are here all night long!"					

5. Your child cleans up his room without being asked. How likely would you be to....."

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very li
1. Say to your child "I like the way you cleaned up your room without me saying anything first."					
2. Say to your child "You're such a helpful person – I can always count on you."					
3. Briefly look into the room, without making any comment					
4. Say to your child "You're such a good boy when you clean up like this without being asked."					

6. You see your child pulling on the family dog's tail and laughing. How likely would you be to ....."

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very li
1. Feel disgusted with him					
2. Say to your child, "It hurts the dog when you pull his tail, just like it hurts you when someone pulls your hair"					
3. Say to your child "Get in your room right now, without another word"					
4. Say to your child "it makes me feel bad to see you tease the dog like that"					
5. Say to your child "Go to your room until you can be someone I would want to be around."					
6. Say to your child "it's not right to pull his tail or tease him.					
7. Say to your child "you need to stop teasing the dog and be nice to him from now on".					

7. You and your child are shopping, and he deliberately hides from you. How likely would you be to....."

RESPONSES	Not at all llikely	Unlikely	Maybe (half and half)	Likely	Very likely
1. Say "If you don't behave, I'm going to smack you"					
2. Say "You really make me feel like a bad parent when you hide from me"					
3. In the check-out line say "Why don't you tell the shop lady how you didn't do what you were told again today"					
4. Say "It's wrong to hide from me when we are shopping."					
5. Refuse to speak to you for the rest of the shopping trip					
6. Say, "You're such a bad son – I can't take you anywhere					

8. Your see your child trying to cheer up another child who is crying. How likely would you be to....."

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very likely
1. Say to your child, "I like the way you tried to cheer your friend up – that was a very nice thing to do".					
2. Choose not to tell you she saw what you did					
3. Say to your child "I'm so proud of you – you're such a nice person"					
4. Say to your child, "Seeing you help your friend that way makes me love you so much!"					

9. You find your child opening up his birthday presents - which you had put in a "secret" hiding place. How likely would you be to....."

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very likely
1. At the birthday party, let everyone know that he found his presents early, to teach him a lesson					
2. Say to your child, "You'll be sorry if I ever catch you opening your presents early again."					
3. Say to your child, "You shouldn't go looking for your presents early"					
4. Say to your child, "You need to apologize for opening these early, and promise me you will not do this again."					
5. Say disgustedly, "I bet you think you're some detective now, don't you."					

10. **Your child is playing with the video player and breaks it. How likely would you be to....."**

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very likely
1. Say to your child, "What a troublemaker you are"					
2. Say to your child, "I can't even look at you right now – go to your room."					
3. Say to your child, "If I catch you playing with the video player again I'm going to smack you"					
4. Loudly announce to anyone who wants to use the video who broke it					
5. Say to your child, "I am very upset – Now I won't be able to watch my programs."					
6. Say to your child, "Great Job! Think you can go without breaking anything else for the next five minutes?"					
7. Say to your child "Since you were responsible for breaking the video, you have to tell the rest of the family and apologise to them".					

11. **Your child brings you flowers he picked for you. How likely would you be to....."**

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very likel
1. Take the flowers and go back to what you were doing					
2. Say to your child "You picked flowers for me ? What a nice thing to do!"					
3. Say to your child, "it makes me smile when you do nice things for me."					
4. Say to your child, "What a thoughtful person you are!"					

12. Your child is outside playing and comes in without his hat. When you ask him about the missing hat, he can't remember what happened to it. How likely would you be to....."

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very likely
1. Sigh in disgust and say, "You'd lose your hands if they weren't attached!"					
2. Say to your child, "That was your hat – you were supposed to keep track of it."					
3. Say to your child, "Do I have to ask your friends to make sure you don't lost your stuff?"					
4. Say to your child, "You are so irresponsible – always losing your stuff."					

13. Your child shows you the model he just built for school. How likely would you be to....."

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very likely
1. Say to your child, "You did a nice job building that model"					
2. Say to your child, "You are so creative!"					
3. Say to your child, "It makes me so happy when I see that you can build something like that"					
4. Give a quick look without making any comment					

14. Your child shows you the model he just built for school. How likely would you be to....."

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very
5. Say to your child, "You did a nice job building that model"					
6. Say to your child, "You are so creative!"					
7. Say to your child, "It makes me so happy when I see that you can build something like that"					
8. Give a quick look without making any comment					

15. Your child was supposed to put away all his stuff, but it is still all over the floor. How likely would you be to....."

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very
1. In front of him, tell others how messy he is					
2. Say to your child, "I'm so tired, and you know how bad I feel when you leave your things out"					
3. Say to your child, "I can't take any more of this mess! stay in this room and I don't want to hear or see you until this room is all clean !"					
4. Say to your child, "Now this is not ok. I asked you to clean up your stuff and you didn't."					
5. Say to your child, "You can't take care of anything – you're hopeless."					
6. Say to your child , "What a disgusting mess – what a pig you are!" 7.					
8. Say to your child, "I know you know how to clean up – lets see you put all your things away."					

16. **Your family is eating dinner together, and in an angry outburst your child throws a dinner roll at you. How likely would you be to....."**

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very likely
1. Announce to the rest of the table "Look who can't eat like the rest of us – everyone, look at this mess!."					
2. Say to your child, "It hurts me when you throw the food I made just for you."					
3. Give your child a disgusted look and say "that makes me sick"					
4. Refuse to speak to your child for the rest of the meal					
5. Give your child a quick smack					
6. Say to your child, "You need to pick up that roll and throw it away, and then apologize to everyone for throwing food during dinner."					
7. Say to your child, "When you throw your food, other people around you can't enjoy their own meal".					
8. Say to your child, "You're such a brat"					

17. **You lose your keys and your child helps you find them. How likely would you be to....."**

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very likely
1. Say to your child, "You make me so proud when you help me like this					
2. Say to your child, "I really like the way you helped me find my keys"					
3. Quietly grab your keys as you run out the door					
4. Say to your child, "You're so helpful – I can always count on you".					

18. Your child comes home from school with a note saying he was picking fights with other students. How likely would you be to....."

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very likely
1. Say to your child, "It's wrong to fight in school."					
2. Say to your child, "It really ruins my day to hear that you behaved this way today"					
3. Say to your child, "No one likes people who fight in school, including me"					
4. Say to your child, "What did you think you were doing, fighting in school! You can just stay in your room until I say you can come out, and I had better not hear a sound from you until then!"					
5. The next day, discuss the incident with the teacher in front of other pupils					
6. Say to your child, "You know not to fight in school because people can get seriously hurt."					
7. Say, "You need to apologize at school tomorrow to everyone you fought with today".					

19. The mother of your child's best friend calls, and tells you that the "new" toy he brought home belongs to his friend. How likely would you be to.....

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very likely
1. Say to your child, "It embarrassed me so much to get that phone call from your friend's mother."					
2. Say to your child, "Since you took that toy without asking first, you have to take it back to your friend and apologize."					
3. Discuss the incident with your child's friend's parent when he and his friend are present.					
4. Say to your child, "How would you feel if someone took something of yours without asking your permission? Other people don't like it either when someone takes their stuff."					
5. Say to your child, "Taking things from other people without their permission is wrong"					

20. For your birthday, your child surprises you with a handmade gift. How likely would you be to.....

RESPONSES	Not at all likely	Unlikely	Maybe (half and half)	Likely	Very likely
1. Say to your child, "You're always such a good son, and I am so proud of you"					
2. React the same way you did when opening other presents					
3. Say to your child, "It was very nice of you to make me a present, and you did a beautiful job."					
4. Say to your child, "At times like this I realize how much I love you"					

APPENDIX 9

Letter of invitation to clinic sample

PATIENT INFORMATION SHEET -CLINIC SAMPLE

You and your child are invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please read the following information carefully.

This study will look at factors that may make a child "hard to manage". The information will be used to suggest ways of improving treatment for these children.

Parents and children referred to the Department of Child and Family Psychology and the Department of Child and Adolescent Psychiatry are being invited to take part. It is up to you to decide whether or not to take part.

If you take part, you will be asked to sign a written consent form. You will also be asked to fill-in some questionnaires about how your child behaves at home and your relationship with your child. Your child's teacher will also be asked to fill-in a questionnaire about how your child behaves at school. The researcher will also speak with your child and ask him about his emotions and feelings about everyday events. You are free to withdraw from the study at any time and without giving a reason. This will not affect the standard of care you receive.

You will be seen at the clinic or at your own home if you prefer. The appointment should last between one-half and one hour.

All the information collected about you and your child during the research will be kept strictly confidential. There will be no identifiable information in the final report.

If you would like to talk about the research or you would like further information then please contact:

Lorraine Philip
Clinical Psychologist in Training
Department of Child and Family Psychology
1 Randolph Road
Stirling

Tel. 01786 450591

APPENDIX 10

Consent for Participation – Child Mental Health Facilities

CONSENT FORM

Interactions Between Temperament, Emotion and Parenting in Relation to Childhood Behaviour Problems: Implications for Treatment

Name of Researcher: Lorraine Philip, Clinical Psychologist in Training

1. I confirm that I have read and understand the information sheet dated .. (version .....) for the above study and have had the opportunity to ask questions. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected. ☐
3. I understand that sections of any of my medical notes may be looked at by responsible individuals from [company name] or from regulatory authorities where it is relevant to my taking part in research. I give permission for these individuals to have access to my records. ☐
4. I agree to take part in the above study. ☐

Name of Patient	Date	Signature
Name of Person taking consent (if different from researcher)	Date	Signature
Researcher	Date	Signature

1 for patient; 1 for researcher; 1 to be kept with hospital notes

APPENDIX 11

Invitation and consent for special school sample

INFORMATION SHEET AND CONSENT FORM – * SCHOOL**

Dear Parent

Research Study

I am a psychologist who is doing an advanced training course in clinical psychology. As part of my training I will be doing a research study. I am very interested in learning about factors that make a child "hard to manage". I am also very keen to work on developing ways that professionals can provide more help to children who are having problems.

Children attending *** school and their parents are being invited to take part.

If you take part, you will be asked to fill-in some questionnaires about how your child behaves at home and how you try to manage your child. Your child's teacher will also be asked to fill-in a questionnaire about how your child behaves at school. The researcher will also speak with your child and ask him about his feelings about everyday events.

You are free to withdraw from the study at any time and without giving a reason.

Your child will be seen at the school. You will be seen at either the school or a local clinic in Stirling. It is also possible to speak to the researcher over the phone if that would be easier. If you prefer to be telephoned then the researcher will phone you at a time that suits you. It will take about half an hour for you to answer all the questions. .

All the information collected about you and your child during the research will be kept strictly confidential.

If you would like to take part please complete the tear-off slip below and return it to the school. If you would like to talk about the research or you would like further information then please contact me at the Department of Child and Family Psychology, Stirling on 01786 450591:

Yours sincerely

Lorraine Philip
Clinical Psychologist in Training

_____TEAR HERE _____

I have read the information sheet and I give my consent for my child to take part in the study.

CHILD'S NAME _____

PARENTS NAME _____ SIGNATURE _____

DATE _____TELEPHONE NUMBER _____

APPENDIX 12

Invitation and consent form (Control Group)

INFORMATION SHEET AND CONSENT FORM

Dear Parent

RESEARCH STUDY

You are being invited to participate in a research study. I am hoping to recruit approximately 30 "well behaved" boys between the ages of 8 and 11 years to act as a control group for a study that I am undertaking as part of my doctoral training in clinical psychology. I am interested in finding out what types of parenting practices are related to good behaviour in children. I am also interested in how these parenting practices relate to the child' s emotionality. The information obtained will hopefully assist professionals to help parents of children who are "hard to manage".

If you agree to participate you will be asked to complete some questionnaires about your child's behaviour and about the type of "parenting practices" you commonly use. These questionnaires will be sent to you. Your child will be seen by the researcher at school. He will be asked about his general feelings about everyday events. This short interview will take approximately half-an-hour and will take place at school. Your child's teacher will also be asked to fill-in a questionnaire about how your child behaves at school.

Please complete the section below indicating whether you would or would not like to be included in the study. Please return the form to your child's class teacher.

If you would like further information about this study or you would like to discuss your participation please contact me at:

The Department of Child and Family Psychology
1 Randolph Road
Stirling

Tel: 01786 450591

Thank you for your interest. I look forward to your reply.

Yours sincerely

Lorraine Philip
Clinical Psychologist in Training

Supervised by
Professor David Cooke
Consultant Clinical Psychologist

I DO/DO NOT WANT TO PARTICIPATE IN THE STUDY

CHILD'S NAME _____ CLASS TEACHER _____

PARENTS NAME _____ SIGNATURE _____

DATE _____

APPENDIX 13

Addition exploratory regression analyses

TOTAL CONDUCT PROBLEMS

In relation to parental reports of total conduct problems, it can be seen from table A1, that parental reports of children's low moral affect/callous-unemotional traits emerged at the first step of the regression analysis i.e. R^2=.54, ($F(1,41) = 49.89$, $p <$ .01) and parental reports of negative parenting practices as measured by the SOMA-PC emerged at step two i.e., $R^2 = .68$, ($F(2, 41) = 45.12$, $p < .01$)

Table A1. Regression Analysis for Total Conduct Problems

TOTAL CONDUCT PROBLEMS)

Step	Variables	B	SE B	Beta	T	Sig T
1	(Constant)	-613	3.373		-.182	.857
	PSD: CU dimension	4.2.94	.608	.737	7.063	.000
2	(Constant)	-26.627	6.594		-4.038	.000
	PSD:CU	2.743	.620	.471	4.422	.000
	SOMA-PC Negative Parenting	.351	.080	.465	4.365	.000

Multiple R = .82
R 2 = .68
Adjusted R 2 = .66

VARIABLES ENTERED INTO EQUATION: Age; Verbal IQ (WASI); Parental reports of children's difficult temperament (PAT); Children's self report of overall emotionality (DES-III); Children's self report of empathy (Index of Empathy); Children's self report of guilt experiences (guilt items on DES-III); Children's self report of guilt proneness (TOSCA-C); Parental reports of children's moral affect (CU traits on PSD); Negative parenting practices (APQ and SOMA-PC); Positive parenting practices (APQ and SOMA-PC).

When callous-unemotional traits were excluded, the results revealed that total conduct problems was predicted by negative parenting as assessed by the SOMA-PC which emerged at step one, $R^2 = .54$, $F(1,42) = 49.11$, $p < .000$ and by the negative parenting dimension of the APQ which emerged at step two, $R^2 = .60$, $F(2,41), = 30.82$, $p <.000$ and difficult temperament which emerged at step three, $R^2 = .65$, $F(3,40), = 25.14$, $p < .000$.

Table A2 **Regression analysis for total conduct problems (excluding CU traits).**

TOTAL CONDUCT PROBLEMS (EXCLUDING CU DIMENSION)

Step	Variables	B	SE B	Beta	T	Sig T
1	(Constant)	-33.179	7.715		-4.301	.000
	SOMA-PC Negative Parenting	.555	.079	.734	7.008	.000
2	(Constant)	-41.031	7.912		-5.186	.000
	SOMA-PC Negative Parenting	.413	.093	.547	4.427	.000
	APQ: Negative Parenting	.593	.236	.311	2.513	.016
3	(Constant)	-53.305	8.964		-5.946	.000
	SOMA-PC: Negative Parenting	.354	.091	.469	3.878	.000
	APQ: Negative Parenting	.590	.222	.309	2.651	.011
	Difficult Temperament	.944	.381	.243	2.470	.018

Multiple R = .81
R 2 = .65
Adjusted R 2 = .63

VARIABLES ENTERED INTO EQUATION: Age; Verbal IQ (WASI); Parental reports of children's difficult temperament (PAT); Children's self report of overall emotionality (DES-III); Children's self report of empathy (Index of Empathy); Children's self report of guilt experiences (guilt items on DES-III); Children's self report of guilt proneness (TOSCA-C); Negative parenting practices (APQ and SOMA-PC); Positive parenting practices (APQ and SOMA-PC).

CHILDREN'S SELF-REPORTED MORAL AFFECT

In the stepwise multiple regression analysis for children's total moral affect, the results indicated that children's overall emotionality predicted their self-report of total moral affect, $R^2 = .14$, $F(1,42) = 7.07$, $p < .011$. No other variables emerged in this equation. See table A3 below.

Table A3 Regression analysis for predicting children's self-report of total moral affect

CHILDHOOD REPORTS OF TOTAL MORAL AFFECT

Step	Variables	B	SE B	Beta	T	Sig T
1	(Constant)	1.268	.206		6.519	.000
	Overall Emotionality	9.904E-03	.004	.380	2.659	.11

R = .38
R 2 = .14
Adjusted R 2 = .12

VARIABLES ENTERED INTO THE EQUATION: Age, Verbal IQ, Difficult Temperament, overall emotionality, APQ positive parenting, APQ negative parenting, SOMA-PC positive parenting and SOMA-PC negative parenting.

As shown on table A4 below, verbal IQ emerged at step one and accounted for 12 per cent of the variance, $R^2 = .12$, $F(1,42) = 5.81$, $p < .020$ for children's self-reported empathy. No other variables emerged as significant predictors of empathy.

Table A4 Regression analysis for predicting children's self-report of empathy

CHILDREN'S REPORTS OF EMPATHY

Step	Variables	B	SE B	Beta	T	Sig T
1	(Constant)	5.224	2.724		1.918	.062
	Verbal IQ	6.363E-02	.026	.349	2.410	.020

R:= .35
R 2 = .12
Adjusted R 2 = .10

VARIABLES ENTERED INTO EQUATION: Age, verbal IQ, difficult temperament, overall emotionality, APQ positive parenting, APQ negative parenting, SOMA-PC positive parenting and SOMA-PC negative parenting.

As shown on table A5, stepwise multiple regression analysis revealed that children's overall emotionality and verbal IQ predicted children's self-report of guilt experiences. Overall emotionality emerged at step one, $R^2 = .21$, $F(1,42) = 11.46$, $p < .002$, and verbal IQ at step two, $R^2 = .30$, $F(2,41) = 8.89$, $p < .001$.

Table A5 Regression analysis for predicting children's self-report of guilt experiences

CHILDREN'S REPORTS OF GUILT EXPERIENCES

Step	Variables	B	SE B	Beta	T	Sig T
1	(Constant)	1.819	1.435		1.267	.212
	Overall emotionality	8.788E-02	.026	.463	3.385	.002
2	(Constant)	6.426	2.444		2.630	.012
	Overall emotionality	7.854E-02	.025	.414	3.130	.003
	Verbal IQ	-4.028E-02	.018	-.301	-2.276	.028

Multiple R = .55
R 2: = .30
Adjusted R 2 = .27

VARIABLES ENTERED INTO THE EQUATION: Age, Verbal IQ, difficult temperament, overall emotionality, APQ positive parenting, APQ negative parenting, SOMA-PC positive parenting and SOMA-PC negative parenting.

In relation to guilt proneness, stepwise multiple regression analysis revealed that positive parenting as measured by the SOMA-PC emerged at step one, $R^2 = .09$, $F(1,42) = 4.19$, $p < .047$. No other variables emerged as significant in this equation. See table A6.

Table A6 Regression analysis for children's guilt-proneness

CHILDREN'S REPORTS OF GUILT PRONENESS (Verbal IQ controlled)

Step	Variable	B	SE B	Beta	T	Sig T
1	(Constant)	30.255	11.91		2.541	.015
	SOMA-PC:Positive Parenting	.158	.077	.301	2.048	.047

R = .30
R 2 = .09
Adjusted R 2 = .07

VARIABLES ENTERED INTO THE EQUATION: Age, Verbal IQ, difficult temperament, overall emotionality, APQ positive parenting, APQ negative parenting, SOMA-PC positive parenting and SOMA-PC negative parenting.

Due to the observed association between children's verbal IQ and their self-report of empathy and guilt experiences it was acknowledged that children's self-reports may therefore reflect their verbal abilities more than their affect. A stepwise multiple regression analyses with verbal IQ forced into the equation revealed the same pattern of results (see table A7 below).

Table A7: Children's reports of moral affect controlling for verbal IQ

CHILDHOOD REPORTS OF OVERALL MORAL AFFECT (Verbal IQ controlled)

Step	Variables	B	SE B	Beta	T	Sig T
1	(Constant)	1.868	.293		6.379	.000
	VIQ	-6.285E-04	.003	-.034	-.222	.826
2	(Constant)	1.208	.372		3.248	.002
	VIQ	5.281E-04	.003	.029	.196	.846
	Overall Emotionality	1.003E-02	.004	.384	2.625	.012

Multiple R = .38
R 2 = .15
Adjusted R 2 = .10

CHILDREN'S REPORTS OF EMPATHY (Verbal IQ controlled)

Step	Variables	B	SE B	Beta	T	Sig T
1	(Constant)	5.224	2.724		1.918	.062
	Verbal IQ	6.363E-02	.026	.349	2.410	.020

R:= .35
R 2 = .12
Adjusted R 2 = .10

CHILDREN'S REPORTS OF GUILT EXPERIENCES (Verbal IQ controlled)

Step	Variables	B	SE B	Beta	T	Sig T
1	(Constant)	11.593	1.981		5.852	.000
	Verbal IQ	-4.934E-02	.019	-.369	-2.570	.014
2	(Constant)	6.426	2.444		2.630	.012
	Verbal IQ	-4.028E-02	.018	-.301	-2.276	.028
	Overall emotionality	7.854E-02	.025	.414	3.130	.003

Multiple R = .55
R 2: = .30
Adjusted R 2 = .27

CHILDREN'S REPORTS OF GUILT PRONENESS (Verbal IQ controlled)

Step	Variable	B	SE B	Beta	T	Sig T
1	(Constant)	49.959	9.440		5.292	.000
	Verbal IQ	4.415E-02	.091	.074	.483	.632
2	(Constant)	20.323	16.396		1.240	.222
	Verbal IQ	7.879E-02	.089	.133	.884	.382
	SOMA-PC: Positive Parenting	.170	.079	.325	2.168	.036

Multiple R = .33.
R 2 = .10
Adjusted R 2 = .06

In summary, the results revealed that negative parenting on the SOMA-PC was the best predictor of parental reports of children's low moral affect/callous-unemotional traits and that positive parenting emerged as significant in relation to children's self-report of guilt proneness.

POSITIVE PARENTING PRACTICES

As shown on table A8, in the first regression for the SOMA-PC measure of positive parenting, guilt proneness emerged at step one, $R^2 = .09$, $F(1,42) = 4.19$, $p < .047$. No other variables emerged in this equation.

Table A8 Regression analysis for positive parenting on SOMA-PC

SOMA-PC POSITIVE PARENTING						
Step	**Variable**	**B**	**SE B**	**Beta**	**T**	**Sig T**
1	(Constant)	121.986	15.539		7.850	.000
	Guilt proneness	.575	.281	.301	2.048	.047
	R = .30 R 2 = .09 Adjusted R 2 = .07					

VARIABLES ENTERED INTO THE EQUATION: Parental reports of children's early temperament, children's self-report of moral affect, age, verbal IQ and children's self-report of overall emotionality.

When parental reports of callous-unemotional traits were entered into the equation, the results revealed that guilt proneness still emerged at step one, $R^2 = .09$, $F(1.42) = 4.19$, $p < .047$. No other variables emerged. (see table A9 below)

Table A9 Regression analysis for positive parenting on SOMA-PC with CU traits included.

SOMA-PC POSITIVE PARENTING WITH PARENTAL REPORTS OF MORAL AFFECT						
Step	**Variable**	**B**	**SE B**	**Beta**	**T**	**Sig T**
1	(Constant)	121.986	15.539		7.850	.000
	Guilt proneness	.575	.281	.301	2.048	.047
	R = .30 R 2 = .09 Adjusted R 2 = .07					

VARIABLES ENTERED INTO THE EQUATION: Parental reports of children's early temperament, children's self-report of moral affect, age, verbal IQ and children's self-report of overall emotionality.

When conduct problems were also entered into the equation, stepwise multiple regression analysis revealed that guilt proneness emerged at step one, $R^2 = .09$, $F(1,42) = 4.19$, $p < .047$ and aggressive conduct problems emerged at step two, $R^2 = .19$, $F(2, 41) = 4.92$, $p < .012$.

Table A10 Regression analysis for positive parenting on SOMA-PC with conduct problems included.

SOMA-PC POSITIVE PARENTING WITH CONDUCT PROBLEMS						
Step	**Variable**	**B**	**SE B**	**Beta**	**T**	**Sig T**
1	(Constant)	121.986	15.539		7.850	.000
	Guilt proneness	.575	.281	.301	2.048	.047
	(Constant)	110.101	15.696		7.014	.000
	Guilt proneness	.666	.271	.349	2.460	.018
	Aggressive Conduct Problems	.462	.202	.324	2.287	.027
	Multiple R = .44 R 2 = .19 Adjusted R 2 = .154					
VARIABLES ENTERED INTO THE EQUATION: Parental reports of children's early temperament, children's self-report of moral affect, age, verbal IQ and children's self-report of overall emotionality.						

In summary, when the positive parenting dimension of the SOMA-PC was subject to multiple regression analysis, it was shown that children's guilt proneness emerged as a significant predictor of this variable. Also, aggressive conduct problems predicted positive parenting practices.